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ABSTRACT

The task for the National Data Management Project is to share technological capabilities with the Head Start Community in order to implement improved services for children and families involved in Head Start. Many Head Start programs have incorporated technology into their programs, including word processing, database management systems, telecommunications, and the National Head Start Bulletin Board System (NHS-BBS). This manual provides information on the capabilities of these technologies to assist Head Start programs as they use computer technology to manage programs, write grants, communicate, and introduce computers to the children in their programs. The chapters in the manual are: (1) "Head Start Computer Software Guide," comparing nine Head Start-specific software packages on a matrix using Head Start requirements; (2) "High(er) Technology for Head Start"; (3) "Fund-Accounting Software Review," reviewing three fund-accounting software systems; (4) "Planning for Automation"; (5) "An Accounting Software Buyer's Guide"; (6) "The Role of the Head Start Director," describing leadership skills necessary to implement computerization; and (7) "Using Computers in Head Start Classrooms," including information on software selection. Most of the chapters contain references. (BGC)

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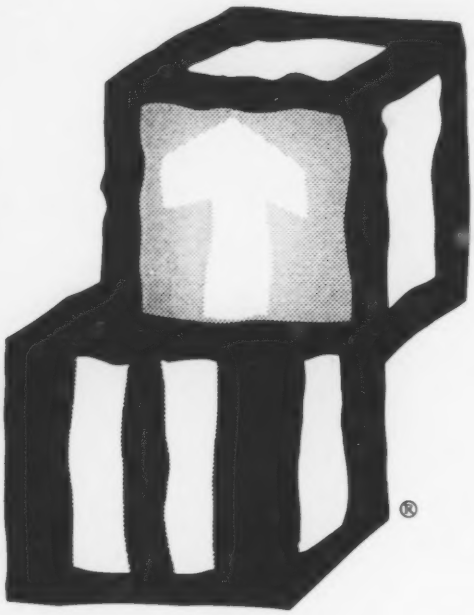
Head Start Automation Manual



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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Administration for Children and Families
Administration on Children, Youth and Families
Head Start Bureau

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Head Start Automation Manual

The opinions expressed herein do not necessarily reflect the position or policy of the Administration on Children, Youth and Families or University of Maryland University College, and no official endorsement by either should be inferred.

Introduction

In 1970, Alvin Toffler wrote in **Future Shock**, "In three short decades between now and the twenty-first century, millions of ordinary, psychologically normal people will face an abrupt collision with the future." He continues by suggesting that the technological changes we are experiencing now are "in all likelihood, bigger, deeper, and more important than the industrial revolution." We are now colliding with that future. Technology is part of our every-day activities. Understanding and using computers and computer software is becoming a necessity rather than a choice for individuals and organizations alike. Illiteracy is beginning to mean computer illiteracy.

At a leadership conference in Massachusetts, Head Start directors were asked what feature they found most special when they first came to work in the Head Start program. Head Start's focus on families and children, treating the whole family as a unit, the comprehensiveness of the services and the determination to help parents become empowered came up overwhelmingly as number one. The second most outstanding quality of Head Start was identified as "a family atmosphere among staff." These two values serve as the under pinnings of this highly successful program.

These values point to a clear focus of the program--human services. Head Start is a premier program from a grassroots origin. It is filled with staff members who are dedicated to improving the quality of life for children and their families. As such, Head Start evolved into a culture which emphasizes interpersonal relationships, direct responsiveness to family needs and in-depth comprehensive services for children and families.

Technology and Human Services -- the terms appear to be mutually exclusive. Human Services denotes caring, people, interpersonal relationships, direct responsiveness to family needs and in-depth comprehensive services for children and family. Technology uses machines and machines require precise terms, complex data, logic. The task for the National Data Management Project is to share the capabilities of technology with the Head Start community and thus, to bring about improved services for the children and families in the program. This manual is offered as a means of attaining that goal.

Many Head Start programs have met the challenge of technology and have shifted from more traditional methods of doing office work based mainly on paper to reliance on a variety of keyboard and display devices.

Head Start programs use computer technology for a variety of tasks. Word processing and database management of program information are perhaps the two most widely used types of software. The National Head Start Bureau has contracted for the development of several software products: PCCOST, a grant application program, is available for no cost to every Head Start program and delegate agency, and is used by many. This software helps to eliminate errors in the grant writing process resulting in timely refunding. The annual PIR can be computed and sent electronically to the Regional Offices. Other software programs designed to facilitate the management of Head Start programs are in the developmental stage and will soon be available.

Many Head Start programs use technology to communicate on-line with other users of the NHS-BBS and to share information with them. On-line telecommunications allows users to "talk"

with other users around the world, to access encyclopedia, newspapers, ERIC and other databases, legislation .. the list is almost endless. A "library of information" is available to anyone who has a computer, a modem attached to a telephone line, and the necessary communication software. The National Head Start Bulletin Board System (NHS-BBS), an electronic communication system of the National Data Management Project, is used by over 1800 persons in the Head Start community to communicate with each other and to share information.

Computer technology continues to advance at a steamroller pace, changing nearly as quickly as world maps in 1991. In the last 40 years, computers have become increasingly powerful, fast, and inexpensive. There is scarcely any activity in Head Start associated with capturing data or tracking information that you cannot relegate to these tireless, accurate, and fast machines.

Purpose and Limitations of *The Head Start Automation Manual*

This manual is meant to provide information on the capabilities of technology and to assist Head Start programs as they use computers to manage their programs, write their grants, communicate with other Head Start programs around the country, and introduce technology to the children in their classrooms.

One important learning that will come to you as you use this manual is that technology is never static. What is new today is old tomorrow. Hardware and software are constantly being upgraded, newly developed. Chapters that were written for this manual will be out-of-date by the time they are published and reach your desk. However, over time prices change for the better, software upgrades cure bugs, and hardware becomes more powerful and affordable. Checking with the vendor will help assure you the opportunity to purchase the latest (translate biggest, fastest, does more) hardware and software packages. Vendor information is included in the chapters.

An important message for you to understand from reading this manual is the importance of software to the operation of your computer (hardware). Since it is the software that runs the computer, wise shoppers select the software for their program/classroom and then purchase the computer and other hardware products needed to operate it remembering that this new software will be updated and newer software developed tomorrow. Newer, more innovative software is in the planning stages as we write and will be on the market by the time you receive this guide.

Contents of *The Head Start Automation Manual*

This manual contains six chapters: The first, *Head Start Computer Software Guide*, written in the Spring of 1992, compares nine Head Start Specific Software packages on a matrix using Head Start program requirements. Vendor supplied information about their software systems and their address and phone number are included in this chapter. Be sure to contact the vendors for current information on each of the software packages.

Chapter Two, *Hight(er) Technology for Head Start*, provides both a look into the future and a look at some of the options available today. A word of caution is also offered ... buying the newest "bestest," and most wonderful product may cost you money. Postponing a computer purchase a few months may save you hundreds of dollars. What was once new, expensive, and full of bugs becomes older, less expensive, and more efficient. The decision of what and when to buy should be based on a program's needs, software selections and budget.

With the help of dozens of experts in the non-profit accounting arena, the National Data Management Project has undertaken a review of fund-accounting software systems. Information on

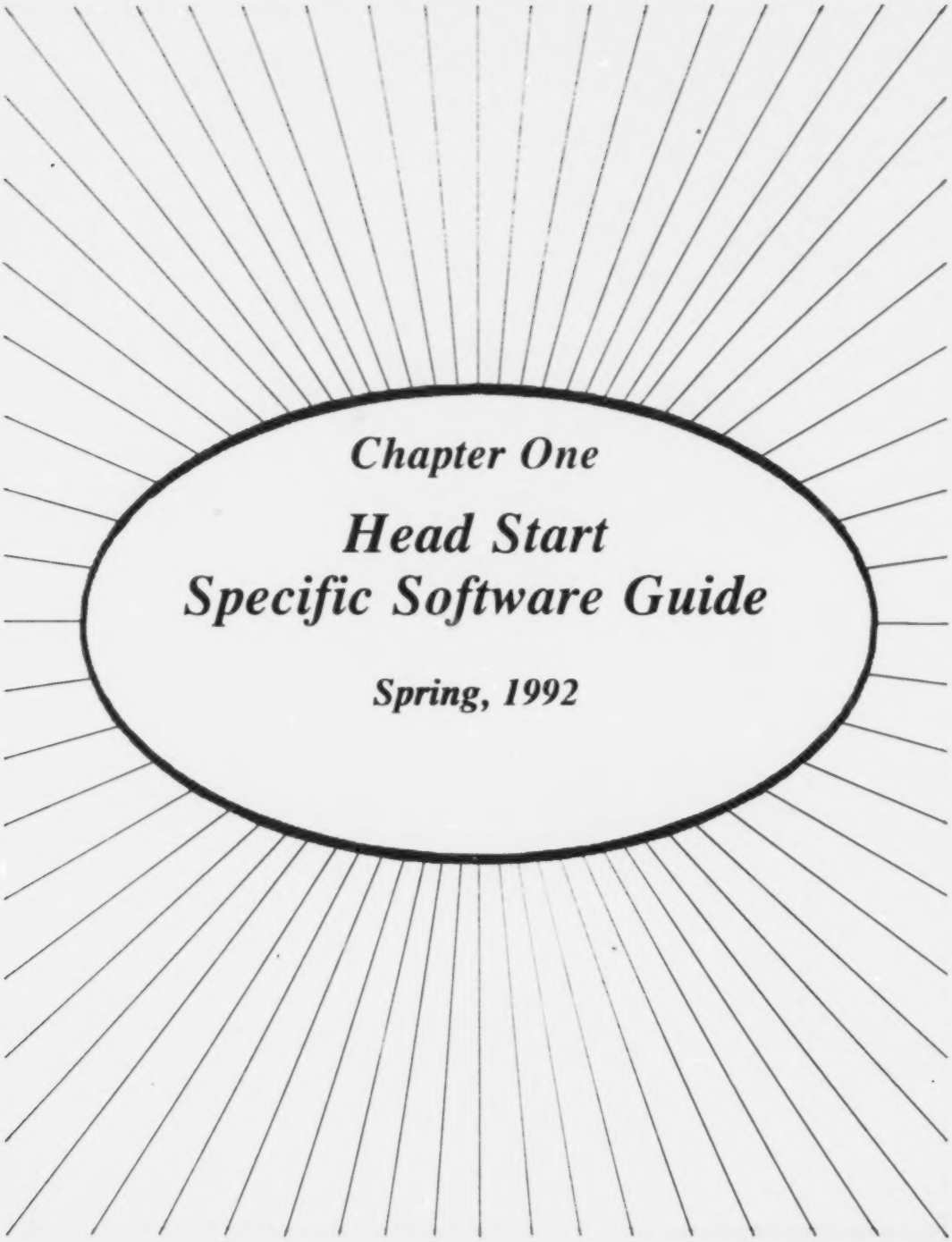
three of these systems is reviewed in Chapter Three, *Fund-Accounting Software Review*. This review is an attempt to introduce the concept of fund-accounting software systems to programs that may not know of this software and as a possible alternative to grantee-accounting systems that may no longer be adequate.

The title of Chapter Four, *Planning for Automation*, defines its focus. The goal of this chapter is to provide guidance for Head Start programs planning to automate and some useful and practical planning tools. Readers will find questionnaires, work-forms, and other aids to assist with the collection of information necessary for such planning.

The rapid expansion of Head Start programs, the multiple funding streams of programs providing wrap-around services for children, and the responsibility to generate financial reports in a timely and accurate manner have made pencil and paper accounting systems obsolete. A reliable and accurate financial management system that can quickly generate a variety of reports is necessary. Chapter Five, *An Accounting Software Buyer's Guide*, provides information on establishing a financial management system.

Chapter Six, *The Role of the Head Start Director*, discusses the leadership skills necessary to make computerization happen and to manage the process to effective fulfillment. The complexity of the Head Start program, the unique components of the automation process, the changing demands of leaders in these times and the emerging issues facing Head Start are all reflected in this chapter.

Once a program decides to use computers in its classrooms, Chapter Seven, *Using Computers in Head Start Classrooms*, will offer valuable information on the selection of software. Since software is what children interact with on a computer, the chapter contains and defines a Guide for the Selection of Software in Head Start Programs and compares a variety of software packages using vendor supplied information. Introducing children to computers, staff training, and placement of computers in the center complete the chapter.



Chapter One

Head Start Specific Software Guide

Spring, 1992

Y = Yes

I = In the system
E = Extra information
R = In a menu report

Family/Child Information
(Social Services/Parent Involvement/Intake)

A. Child's Intake Information

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
1. name, address, phone no.	Y		Y	Y		Y	Y		Y
2. child social security no.	Y		Y	Y		Y	Y		Y
3. birthdate	Y		Y	Y		Y	Y		Y
4. dob verification noted	Y			Y		Y			
5. race	Y		Y	Y		Y	Y		Y
6. national origin				*		*	*		*
7. citizenship noted				*		*	*		*
8. child's dominant language	Y		Y	Y		Y	Y		Y
9. home language	Y		Y	Y		Y	Y		Y
10. child speaks English	Y	Y	Y	Y		Y	Y		Y
11. sex	Y		Y	Y		Y	Y		Y
12. years of Head Start experience	Y		Y	Y		Y	Y		Y
13. school year listed	Y		Y	Y		Y	Y		Y
14. general directions to home	Y	Y	Y	Y	Y	Y	Y	Y	Y
15. social services/parent inv. staff person assigned	Y	Y	Y	Y		Y	Y	Y	Y

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y				Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	*	Y	Y		Y				Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
			Y		Y				Y		Y	*	Y	*			
			Y		Y				Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y				Y		Y	*	Y	*			
	Y	Y	Y			Y	Y	Y	Y		Y	*	Y	*			

A. Child's Intake Information

*option available via use of "free fields" or a "remarks" section

Y = Yes

I = In the system
E = Extra information
R = In a menu report

Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
16. family educational needs/ health conditions	Y	Y	Y	Y	Y	Y	*		*
17. financial need	Y	Y	Y	Y	Y	Y	Y		Y
18. family employers	Y	Y	Y	Y		Y	Y		Y
19. user defined fields	Y		Y	Y		Y	Y		Y
20. remarks	Y		Y	Y		Y	Y		Y

B. Program Service Information

	I	E	R	I	E	R	I	E	R
1. child's transportation needs noted	Y		Y	Y	Y	Y	Y		Y
2. child's transportation routes noted	Y		Y	Y	Y	Y	Y	Y	Y
3. child's transportation scheduling	Y		Y	Y	Y	Y	Y	Y	Y

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y				Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			

B. Program Service Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y				Y		Y	Y		Y			
Y	Y	Y	Y		Y				Y		Y	Y		Y			
Y	Y	Y	Y		Y				Y		Y	Y		Y			

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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
C. Program Management Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. child's ID noted	Y		Y	Y		Y	Y		Y
2. classroom ID noted	Y		Y	Y		Y	Y		Y
3. teacher/home visitor assigned to child	Y		Y	Y		Y	Y		Y
4. center ID noted	Y		Y	Y		Y	Y		Y
5. county ID noted				Y		Y	Y		Y
6. Head Start program option noted	Y		Y	Y		Y	Y		Y
7. child's classroom schedule posted	Y		Y	Y		Y			
8. classroom teacher ID noted	Y		Y	*		*	Y		Y
9. notice of acceptance sent	Y		Y	Y		Y	Y		Y
10. parent acknowledge acceptance				Y		Y	Y		Y
11. class/days	Y		Y	Y		Y			

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

C. Program Management Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y				Y		Y	*		*			
Y	Y	Y	Y		Y				Y		Y	*		*			
Y	Y	Y	Y			Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*		*			
			Y		Y				Y		Y	*		*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	Y		Y			
Y		Y							Y		Y	Y		Y			
*	Y	Y				Y		Y	Y		Y	Y	Y	Y			
*	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			

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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
D. Emergency Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. emergency contact name and phone number	Y		Y	Y	Y	Y	Y	Y	Y
2. alternate emergency contact name and phone	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. relationship of contact to child	Y		Y	Y		Y	Y	Y	Y
4. times of availability for contact	Y		Y	*		*			
5. physician listed	Y		Y	Y		Y	Y		Y
6. dentist listed	Y		Y	Y		Y	Y		Y
7. hospital or clinic listed	Y		Y	*		Y			
8. medical services phone numbers	Y		Y	*		*	Y		Y
9. conditions requiring attention	Y		Y	*		*	Y		Y

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

D. Emergency Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y						Y		Y	*		*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			

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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
E. Enrollment Process									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. application date	Y		Y	Y		Y	Y		Y
2. application status noted	Y		Y	Y	Y	Y	Y		Y
3. enrollment date	Y		Y	Y		Y	Y		Y
4. intake criteria noted	Y		Y	Y	Y	Y	Y		Y
5. waiting list maintained	Y		Y	Y	Y	Y	Y		Y
6. disabling condition noted	Y		Y	Y	Y	Y	Y	Y	Y
7. reason not accepted noted	Y		Y	Y	Y	Y	Y		Y
8. home visit date(s)	Y	Y	Y	Y	Y	Y	Y	Y	Y
9. attendance posted and totaled	Y	Y	Y	Y		Y	Y		Y
10. date of initial contact	Y		Y	*	*	*	Y		Y
11. termination date	Y		Y	Y	Y	Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

E. Enrollment Process

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y			Y			Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y						
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y				Y		Y	*	Y	*			
Y		Y	Y	Y		Y		Y	Y		Y	*	Y	*			
Y		Y	Y	Y	Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			

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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
F. Family Intake Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. adult names, addresses, phone nos.	Y	Y	Y	Y	*	Y	Y		Y
2. work phone no.	Y		Y	Y	Y	Y	Y		Y
3. family ID no.	Y		Y	Y		Y	Y		Y
4. social security nos. (for adults)	Y		Y	Y		Y	Y		Y
5. race/nationality	Y		Y	*		*	Y		Y
6. employed/working status	Y		Y	Y	Y	Y	Y		Y
7. income eligibility noted	Y		Y	Y	Y	Y	Y		Y
8. income listed	Y	Y	Y	Y	Y	Y	Y		Y
9. income verified	Y	Y	Y	Y	Y	Y	Y		Y
10. public assistance noted	Y	Y	Y	Y		Y	Y		Y
11. agencies involved with family noted	Y	Y	Y	Y	Y	Y	Y		Y
12. material status noted	Y		Y	Y		Y	Y		Y
13. no. in family	Y		Y	Y	Y	Y	Y		Y
14. no. in household	Y		Y	Y	Y	Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

F. Family Intake Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y		Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y		Y	Y		Y				Y		Y	*		*			
Y		Y	Y						Y		Y	Y		Y			
Y		Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y	Y	Y	Y		Y	Y		Y			
Y	Y	Y	*		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	*	Y	*			

*option available via use of "free fields" or a "remarks" section

Y = Yes

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E = Extra information
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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
15. family relationships noted	Y		Y	Y	Y	Y	Y		Y
16. education level of parents	Y		Y	Y		Y	Y		Y
17. physical condition of parents	Y	Y	Y	Y	Y	Y	Y		Y
18. disabling condition status of parents	Y		Y	Y	Y	Y	Y		Y
19. siblings listed	Y	Y	Y	Y	Y	Y	Y		Y
20. parent TB testing noted	Y		Y	Y		Y	Y		Y
21. parent food-handling noted	Y		Y	Y		Y			

G. Volunteer Information

	I	E	R	I	E	R	I	E	R
1. volunteer interests listed	Y		Y	*		*	*		*
2. times available for volunteer	Y		Y	Y		Y	Y		Y
3. individual volunteer hours posted	Y		Y	Y		Y	Y		Y
4. child care needs noted	Y	Y	Y	*		*	*		*
5. adult transportation needs noted	Y	Y	Y	*		*	*		*

*option available via use of "free fields" or a "remarks" section

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
*	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	*	Y	*			
*	Y	Y	Y						Y		Y	*	Y	*			
*	Y	Y							Y		Y	*	Y	*			

G. Volunteer Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y	Y					Y		Y	*	Y	*			
Y	Y	Y	Y						Y		Y	*	Y	*			

*option available via use of "free fields" or a "remarks" section

Y = Yes

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E = Extra information
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Family/Child Information
(Social Services/Parent Involvement/Intake)

	FACTS++			CHILD PLUS III			HEAD STARTER		
H. Service to Families									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. family needs assessment	Y	Y	Y	Y	Y	Y	Y		Y
2. family needs tracking system	Y	Y	Y	Y	Y	Y	Y		Y
3. direct/referred services noted	Y	Y	Y	Y	Y	Y	Y	Y	Y
4. community resources listed	Y	Y	Y	Y	Y	Y	Y		Y

Family/Child Information
(Social Services/Parent Involvement/Intake)

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

H. Service to Families

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y	Y		Y	Y	Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y		Y	Y	Y	Y		Y	*	Y	*			
Y	Y	Y															

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Health Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
A. General Health Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. emergency contact	Y		Y	Y	Y	Y	Y	Y	Y
2. birth information				Y	*	Y	Y		Y
3. developmental history	Y		Y	Y	*	Y	Y	Y	Y
4. current health status	Y		Y	Y	*	Y	Y		Y
5. medication dispensed		Y		Y	*	Y	Y		Y
6. allergies noted	Y		Y	Y	Y	Y	Y		Y
7. special diet noted	Y		Y	Y	Y	Y	Y	Y	Y
8. fluoridation noted	Y		Y	*		*	Y		Y
B. Child Health Procedures									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. physical exam date	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. physician listed	Y	Y	Y	*		*	Y	Y	Y
3. dental exam date	Y	Y	Y	Y	Y	Y	Y	Y	Y

*option available via use of "free fields" or a "remarks" section

Health Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R

A. General Health Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	*	Y	*			
*		Y	Y			Y	Y	Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			

B. Child Health Procedures

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	*	Y	*			

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Health Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
4. dentist listed	Y		Y	*	*	*	Y		Y
5. dental treatment noted	Y		Y	Y	Y	Y	Y		Y
6. dental treatment schedule	Y		Y	Y	Y	Y	Y		Y
7. disease history	Y		Y	*		*	Y		Y
8. family disease history				*		*	Y		Y
9. growth assessments posted	Y	Y	Y	Y	Y	Y	Y		Y
10. medical screenings listed	Y	Y	Y	Y	Y	Y	Y		Y
11. TB testing noted	Y		Y	Y	Y	Y	Y	Y	Y
12. immunization records posted	Y	Y	Y	Y	Y	Y	Y	Y	Y
13. next immunizations scheduled	Y		Y	Y	Y	Y	Y	Y	Y
14. mental health issues posted	Y		Y	Y	Y	Y		Y	
15. health referral noted	Y	Y	Y	Y	Y	Y	Y	Y	Y

*option available via use of "free fields" or a "remarks" section

Health Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
*		Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	Y		Y			
Y		Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y	Y	Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			

*option available via use of "free fields" or a "remarks" section

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Health Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
C. Supervisory Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. medicaid eligibility noted	Y		Y	Y	Y	Y	Y		Y
2. medicaid expiration date				Y		Y			
3. medicaid ID no.	Y	Y	Y	Y		Y	Y		Y
4. medical consent form noted	Y		Y	*	*	*	Y		Y
5. medical providers listed	Y		Y	Y		Y	Y		Y
6. health expenses noted	Y		Y	Y		Y	Y		Y
7. method of payment noted	Y		Y	Y		Y	Y		Y
8. insurance provider listed	Y		Y	Y		Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Health Component

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

C. Supervisory Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y				Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
*		Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y	Y	Y	Y						Y		Y	*	Y	*			
Y		Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y		Y									Y	Y		Y			

*option available via use of "free fields" or a "remarks" section

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Nutrition Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
A. Nutritional Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. no. in household or family noted	Y		Y	Y	Y	Y	Y		Y
2. USDA income eligibility noted	Y	Y	Y	Y	Y	Y	Y		Y
3. USDA meal category noted	Y		Y	Y	Y	Y	Y	Y	Y
4. meal count per month posted	Y		Y	Y	Y	Y		Y	
5. child dietary concerns noted	Y		Y	Y		Y	Y	Y	Y
6. compliance with sanitary requirements noted	Y		Y	Y	Y	Y			
7. food handler licenses noted	Y		Y	Y	Y	Y		Y	
8. report on actual meals	Y		Y					Y	
9. track food supplies	Y		Y					Y	

*option available via use of "free fields" or a "remarks" section

Nutrition Services

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
			Y		Y	Y		Y	Y		Y	*	Y	*			
			Y		Y				Y		Y	*	Y	*			
			Y		Y				Y		Y	Y		Y			
			Y		Y				Y		Y	Y		Y			
			Y		Y	Y		Y	Y		Y	*	Y	*			
	Y								Y		Y	*	Y	*			
*	Y								Y		Y	*	Y	*			
Y	Y								Y		Y	Y		Y			
	Y																

A. Nutritional Information

*option available via use of "free fields" or a "remarks" section

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Disabilities Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
A. Special Needs Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. IEP date	Y		Y	Y		Y	Y		Y
2. IEP update noted	Y		Y	Y		Y	Y		Y
3. over-income noted	Y		Y	Y	Y	Y	Y	Y	Y
4. primary disability specified	Y		Y	Y	Y	Y	Y		Y
5. secondary disability specified	Y		Y	Y	Y	Y	Y		Y
6. type or amount of special services required	Y		Y	Y	*	Y	Y		Y
7. child's special services noted	Y	Y	Y	Y	*	Y	*		*
8. parents' special services noted	Y		Y	Y	*	Y			
9. conference/treatment dates	Y	Y	Y	Y	*	Y	Y		Y
10. transition noted	Y		Y	Y	*	Y		*	
B. Supervisory Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. special needs staff assigned	Y		Y	*		*	Y		Y
2. referral information	Y		Y	Y	*	Y	Y	Y	Y
3. provider of special services noted	Y		Y	Y	*	Y	Y	Y	Y
4. special transportation required	Y		Y	Y		Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Disabilities Services

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

A. Special Needs Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y	Y						Y		Y	*	Y	*			
Y	Y	Y	Y						Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*		*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y		Y	Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y	Y			Y		Y	Y		Y	*	Y	Y			
*	Y	Y	Y			Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y	Y	Y	Y		Y	*	Y	*			
*	Y	Y				Y		Y	Y		Y	*	Y	*			

B. Supervisory Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
*	Y		Y			Y			Y		Y	*	Y	*			
	Y		Y		Y	Y		Y	Y		Y	*	Y	*			
*	Y					Y		Y	Y		Y	*	Y	*			
*	Y								Y		Y	*	Y	*			

*option available via use of "free fields" or a "remarks" section

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Education Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
A. Child Development Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. developmental screening	Y	Y	Y	Y		Y	Y		Y
2. developmental assessment	Y	Y	Y	Y		Y	Y		Y
3. curriculum type noted	Y		Y	*		*	Y		Y
4. observations noted	Y	Y	Y	Y		Y	Y		Y
5. child conferences noted	Y	Y	Y	*		*	Y		Y
6. education home visits noted	Y	Y	Y	Y		Y	Y		Y
7. progress notes	Y		Y				Y		Y
8. tester's name				*		*			
9. transition notes	Y		Y						
B. Supervisory Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. permission to release child to others	Y	Y	Y	Y		Y	Y	Y	Y
2. Head Start activities permission				*	*	*	Y		Y
3. classroom health/safety compliance	Y		Y	Y	*	Y			

*option available via use of "free fields" or a "remarks" section

Education Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
						Y	Y	Y	Y		Y	*	Y	*			
			Y	Y	Y	Y	Y	Y	Y		Y	*	Y	*			
Y	Y	Y	Y						Y		Y	*	Y	*			
			Y			Y		Y	Y		Y	*	Y	*			
			Y		Y	Y		Y	Y		Y	*	Y	*			
			Y		Y	Y		Y	Y		Y	*	Y	*			
	Y		Y		Y	Y		Y	Y		Y	*	Y	*			
*		Y	Y			Y		Y	Y		Y	*	Y	*			
*	Y					Y		Y				*	Y	*			

A. Child Development Information

B. Supervisory Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
	*	Y	Y		Y				Y		Y	Y		Y			
*	*	Y	Y		Y				Y		Y	*	Y	*			
	*								Y		Y	Y	Y	Y			

*option available via use of "free fields" or a "remarks" sec: n

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Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
A. Staff Records									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. name, address, phone no.	Y		Y	Y	*	Y	Y		Y
2. social security no.	Y		Y	Y	*	Y	Y		Y
3. birthdate	Y		Y	Y	*	Y	Y		Y
4. race	*		*	Y	*	Y	Y		Y
5. marital status	*		*	Y	*	Y	Y		Y
6. physical exam date	Y		Y	Y	*	Y	Y		Y
7. auto insurance	*		*	Y	*	Y			
8. driver's license	Y		Y	*		*	Y		Y
9. food handler license	Y		Y	Y	*	Y	Y		Y
10. TB test	Y		Y	Y	*	Y	Y		Y
11. bonding status	*			*	*	*	Y		Y
12. application date	Y		Y	*	*	*	Y		Y
13. employment date	Y		Y		*		Y		Y
14. current Head Start position	Y		Y	Y	*	Y	Y		Y
15. prior Head Start positions held	Y		Y	Y	*	Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Administration Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	*		*			
Y		Y				Y		Y	Y		Y	Y		Y			
*		*							Y		Y	*	Y	*			
*		Y							Y		Y	*	Y	*			
*		*							Y		Y	*	Y	*			
*		*							Y		Y	*	Y	*			
Y		Y							Y		Y	*	Y	*			
		Y							Y		Y	*	Y	*			
Y		Y							Y		Y	*	Y	*			
Y		Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			

A. Staff Records

*option available via use of "free fields" or a "remarks" section

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Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
16. termination date	Y		Y	Y	*	Y	Y		Y
17. current or former Head Start parent	Y		Y	Y	*	Y	Y		Y
18. target area resident	Y		Y	*		*			
19. signed-off, personnel policies	*			*		*	Y		Y
20. special skills noted	*			Y	*	Y	Y		Y
21. leave status	Y		Y	Y	*	Y	Y		Y
22. staff action hire/change job/training	Y		Y	*		*	Y		Y

B. Administrative Information

	I	E	R	I	E	R	I	E	R
1. staff ID no.	Y		Y	Y		Y			Y
2. center ID no.	Y			Y		Y	Y		Y
3. performance appraisal information	Y		Y	Y		Y	Y		Y
4. OSPRI compliance tracking	Y		Y	Y	*	Y	Y		Y
5. SAVI compliance tracking	Y		Y	Y	*	Y			

*option available via use of "free fields" or a "remarks" section

Administration Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	*	Y	*			
*		Y							Y		Y	*	Y	*			
*	*	Y							*		*	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y							Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			

B. Administrative Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y							Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	*		*			
Y	Y	Y							Y		Y	Y	Y	Y			
Y		Y	Y		Y			Y	Y		Y	*	Y	*			
Y	Y	Y							Y		Y	*	Y	*			

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Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
6. facility license information				Y	*	Y	Y		Y
7. direct supervisor noted	Y			*		*	Y		Y
8. state/local license information				Y	*	Y	Y		Y
9. community needs assessed				Y	*	Y			
10. property inventory system	Y		Y				Y		Y
11. mailing labels created	Y		Y	Y	*	Y	Y		Y
12. business letters created							Y	Y	Y
13. fiscal included within system	Y	Y	Y						
14. staff salary summary	Y		Y						

C. Staff Education

	I	E	R	I	E	R	I	E	R
1. highest education completed	Y		Y	Y	Y	Y	Y		Y
2. education degree	Y	Y	Y	Y	Y	Y	Y		Y
3. current education program	Y	Y	Y	Y	Y	Y	Y		Y
4. staff training needs information	*		*	Y	Y	Y	Y		Y

*option available via use of "free fields" or a "remarks" section

Administration Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
*	*	Y							Y		Y	*	Y	*			
*	*	Y							Y		Y	*	Y	*			
*	*	Y							Y		Y	*	Y	*			
*	*	Y										*	Y	*			
Y	Y	Y	Y	Y	Y				Y		Y						
Y		Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y				Y		Y	Y		Y	Y		Y			
Y	Y	Y				Y		Y	Y		Y	Y		Y			

C. Staff Education

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			

*option available via use of "free fields" or a "remarks" section

Y = Yes

I = In the system
E = Extra information
R = In a menu report

Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
	I	E	R	I	E	R	I	E	R
5. training record established	Y		Y	Y	Y	Y	Y	Y	Y
6. CDA status noted	Y	Y	Y	Y	Y	Y	Y	Y	Y
7. Early Childhood Education noted	Y		Y	Y	Y	Y	Y	Y	Y

D. Funding Information

	I	E	R	I	E	R	I	E	R
1. salary information	Y		Y	Y	*	Y			
2. payroll department				Y	Y	Y			
3. funding category of staff	Y		Y	Y	Y	Y			
4. hours worked by staff	Y		Y	Y	Y	Y	Y		Y

Administration Component

HEAD START DATATRACKER			HEAD START DECISION MANAGER			HEAD START AUTOMATED MANAGEMENT SYSTEM			CAPTAIN			CHILD CARE 2000			WORK CHECK LIST		
I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			
Y	Y	Y				Y		Y	Y		Y	Y	Y	Y			

D. Funding Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y							Y		Y	Y		Y			
Y		Y							Y		Y	*	Y	*			
*	Y	Y							Y		Y	*	Y	*			
*		Y							Y		Y	Y		Y			

*option available via use of "free fields" or a "remarks" section

Y = Yes

I = In the system
E = Extra information
R = In a menu report

Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
E. Non-Federal Contributions									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. donor information noted	Y		Y	Y	Y	Y	Y		Y
2. cash gifts noted	Y		Y	Y	Y	Y	Y		Y
3. space gifts noted	Y		Y	Y	Y	Y	Y		Y
4. goods gifts noted	Y		Y	Y	Y	Y	Y		Y
F. Program Information Report (PIR)									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. calculates PIR from data in database	Y		Y	Y	Y	Y	Y		Y
2. prints entire PIR questions plus data				Y	Y	Y	Y		Y
3. compiles PIR for electronic transfer				Y	Y	Y	Y		Y
4. copies PIR on diskette for mailing				Y	Y	Y	Y		Y
5. Error traps PIR	Y			Y	Y	Y	Y		Y
6. prints current one time questions				Y	Y	Y	Y		Y
7. prints current previous one time questions							Y		Y

Administration Component

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

E. Non-Federal Contributions

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			
Y	Y	Y				Y		Y	Y		Y	*	Y	*			

F. Program Information Report (PIR)

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y							Y		Y	Y		Y			
Y		Y										Y					
Y		Y							Y		Y	Y					
Y		Y							Y		Y	Y		Y			
Y		Y							Y		Y	Y		Y			

*option available via use of "free fields" or a "remarks" section

Y = Yes

I = In the system
E = Extra information
R = In a menu report

Administration Component

	FACTS++			CHILD PLUS III			HEAD STARTER		
G. Reporting System Information									
	I	**E**	**R**	**I**	**E**	**R**	**I**	**E**	**R**
1. detailed reports component specific	Y		Y	Y	Y	Y	Y		Y
2. tracking reports for volunteers, staff, etc.	Y		Y	Y	Y	Y	Y		Y
3. information listings as demographics	Y		Y	Y	Y	Y	Y		Y
4. exception reports as reports for specific children	Y		Y	Y	Y	Y	Y	Y	Y
5. summary counts for counting purposes only	Y		Y	Y	Y	Y	Y		Y
6. Ad hoc reports which use the "free" fields or user-definable fields				Y	Y	Y	Y	Y	Y
7. management reports for directors or managers	Y		Y	Y	Y	Y	Y	Y	Y
8. graphic reports				Y	Y	Y			
9. sorts on one or more variables	Y		Y				Y	Y	Y
10. generates reports by merging different databases	Y		Y	Y	Y	Y	Y		Y

Administration Component

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000	WORK CHECK LIST

G. Reporting System Information

I	E	R	I	E	R	I	E	R	I	E	R	I	E	R	I	E	R
Y		Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y		Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y		Y	Y		Y				Y		Y	Y	Y	Y			
Y		Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
Y		Y	Y		Y	Y		Y	Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y	Y		Y	Y		Y	Y		Y	Y	Y	Y			
	Y	Y							Y		Y	Y		Y			
Y		Y				Y		Y	Y		Y	Y		Y			
Y		Y	Y			Y		Y	Y		Y	Y		Y			

HARDWARE AND SOFTWARE FACTS

	FACTS++	CHILD PLUS III	HEAD STARTER
1. Compatible with standard hardware	IBM PC XT IBM PC AT PS/2 Any IBM compatible	IBM PC XT IBM PC AT PS/2 Any IBM compatible	IBM PC XT IBM PC AT PS/2 Any IBM compatible 286 computer 386 computer 486 computer Macintosh SE30
2. Printer	132 character printer	132 character printer	Okidata 321 Star ND17 Equivalent wide carriage 132 Character Printer
3. Main memory required	512k single user 640k network	640k	640k
4. Disk storage space recommended	Minimum 20 megabyte hard disk	20 Megabyte hard disk	20 Megabyte hard disk

HARDWARE AND SOFTWARE FACTS

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000
IBM PC XT IBM PC AT PS/2 Any IBM compatible	IBM PC XT IBM PC AT IBM PS/2 Any IBM Compatible	IBM System 36 Series	Digital VAX Acts as a File Server to any IBM Compatible PC or Macintosh	IBM PC XT IBM PC AT IBM PS/2 Any IBM Compatible
Any printer	132 character printer	IBM System 36/ AS/400 Family of computers (Multi-User System)	Most Standard or Laser Printers	80 or 136 character printer Laser Printers
640k	256k	Based on size of program and number of work stations	6 megabytes	640k
Minimum 10 Megabyte hard disk 20 recommended	10 Megabyte hard disk	Based on size of program and number of work stations	150 Megabyte hard disk	Minimum 20 Megabyte hard disk Actual Recommended by Vendor

HARDWARE AND SOFTWARE FACTS

	FACTS++	CHILD PLUS III	HEAD STARTER
5. Operating system	PC DOS MS DOS 3.1	Dos 3.1 or higher	MS or PC Dos
6. Application language of software	FoxBase + FoxPro dBase III or III+ dBase IV	Foxbase + dbase III	dBase III plus Clipper
7. Merge Capabilities	Word Perfect	dBase III	dBase III + with assembly Clipper
8. Additional software needed to run system	None	None	None

HARDWARE AND SOFTWARE FACTS

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000
PC DOS or 3.0 MS DOS	PC DOS or MS DOS	IBM SSP	VMS - Can manage a Network of Personal computers	MS DOS PC DOS
Advanced Revelation C	Knowledgeman C	RPGII	COBOL RMS Data Base FMS Screens	Clarion
Revelation C Word Perfect FOXPRO	Mobius representative will provide merge capability	IBM Display Write	Any VAX VMS, MS DOS, or Macintosh Packages through digital's "path works" software	With Report Writer it will merge programs that can be converted to an ASCI file
Advanced Revelation Run-time		None	None	P.C. Tools by Central Point (Recommended)

	FACTS++	CHILD PLUS III	HEAD STARTER
9. Multi-user Capability	Yes	Yes	Yes
10. Cost of Head Start Software **Note:** A LAN is required to run Network software. A multi-user system is required to run multi-user software.	$995.00	$2,995 IBM-Single User $3,995 IBM-Multi User	ChildTracking $1,965 Color Network System $1,995 Recruitment Tracking $295 In-Kind Services $495 Staff Tracking $495 Meals $495 Inventory $495 Transportation $495 Food Inventory $285 Resource Manager $495 Word Processing $495

HARDWARE AND SOFTWARE FACTS

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000
Yes	Yes	Yes	Yes - Unlimited Number of Users - local and Remote	Yes
$2,495 IBM Single User $3,495 IBM Multi User All inclusive	$3,600.00 For a one year package which includes the software, custom programming, training and technical support via 800 number. A three year contract is recommended at a cost of $3,600 for each additional year	$25,000.00	$15,000.00	Single User $395 per module Network Version $695.00 per module: Child and Family Data Base; Attendance and scheduling; Applicant and marketing information; Personnel Management; Meal planning and USDA Reporting; Report Writer

TRAINING AND TECHNICAL ASSISTANCE SERVICES

	FACTS++	CHILD PLUS III	HEAD STARTER
1. Service included with price of software	Contracted separately	General phone support after installation	System designed to be installed and operational without training required. Telephone follow-up support
2. Training costs	Usually not required otherwise $2.095 for one year telephone support and 2 days of on-site training	$300-$600 per day on-site Plus travel	$250 per day extended travel $100 may apply to remote agencies travel costs at cost
3. Cluster training available at reduced rates	Cluster options available at substantial discount	Cluster options available	Multi-training discounts available
4. Technical assistance available	Technical assistance as above or with separate telephone support: $275 for 6 months $400 for 1 year	Technical assistance contracted separately	Included free via 800 toll free number for one PIR year

TRAINING AND TECHNICAL ASSISTANCE SERVICES

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000
Phone Support Free Installation and 1 day training limited customer programming - Software Support Hotline	Training Technical support via 800 hot line number Custom programming	Installation Training Technical Support	Installation Training Telephone Support	Free support for 90 days Additional training via an 800 number
First Day Free 450 per day after first day plus travel	Two days of on-site training included in sale price	Three day on-site training and one year support include in sale price	As needed for one year, on site and telephone, included in sale price. Various ongoing options available thereafter	$225 for half day $375 full day at Care Systems At client site and as above plus travel expenses
Programs may share cluster 450 is for multiple programs	Cluster training price negotiable	Cluster options available	Various cluster options available	Cluster training available
Technical assistance is free for first fifteen day after purchase 450 per year thereafter	Technical assistance is included in the contract package	One year support as part of the sale price	Various on going options after first year	Annual Software maintenance agreement at $50 per module includes:Unlimited priority phone support via 800 number; Free upgrades containing all major enhancements; Updated documentation; User news letter; New product information

	FACTS++	CHILD PLUS III	HEAD STARTER
5. User group available	Yes	Yes - National and State Groups for GA, AL, MS, FL, KY, IA, NE, KS, MD, ND, MT, TX, MI, AK & Region I	Not currently newsletter
6. System enhancements	No charge if support agreement in effect. Otherwise charge is minimal	No charge if on support plan	Upgrades free for one PIR year following purchase and reasonably priced thereafter
7. Modifications to existing systems available	Yes	Yes	Yes

TRAINING AND TECHNICAL ASSISTANCE SERVICES

HEAD START DATATRACKER	HEAD START DECISION MANAGER	HEAD START AUTOMATED MANAGEMENT SYSTEM	CAPTAIN	CHILD CARE 2000
Yes with Bi-monthly newsletter	Not currently	Not currently	Yes active	User newsletter
Free Up Grade for three years LAN, WAN, Remote Organize Support	During the 3-year contract period there is no charge for updates or enhancements	Basic upgrades at minimal cost	First year upgrades and enhancements free Subsequent years via software support agreement	Free upgrades with all major enhancement with purchase of $500 annual software maintenance agreement
Yes	Yes	Yes	Yes	Yes

VENDORS

Captain
CAPS Systems, Inc.
Fagan Drive
Avon, MA 02322
Contact Person: Tom McLaughlin
(508) 588-4043

Child Care 2000
Care Software Systems, Inc.
6543 "C" Commerce Parkway
P.O. Box 1530
Dublin, OH 43017
Contact Person: Chuck Gibbs
(614) 793-2000
(800) 875-5002

ChildPlus III
Micro Management Systems, Inc.
5883 Glenridge Drive
Suite 170
Atlanta, GA 30328-5339
Contact Person: Dr. Thomas McMurrain
(404) 252-6674
(800) 888-MMSI

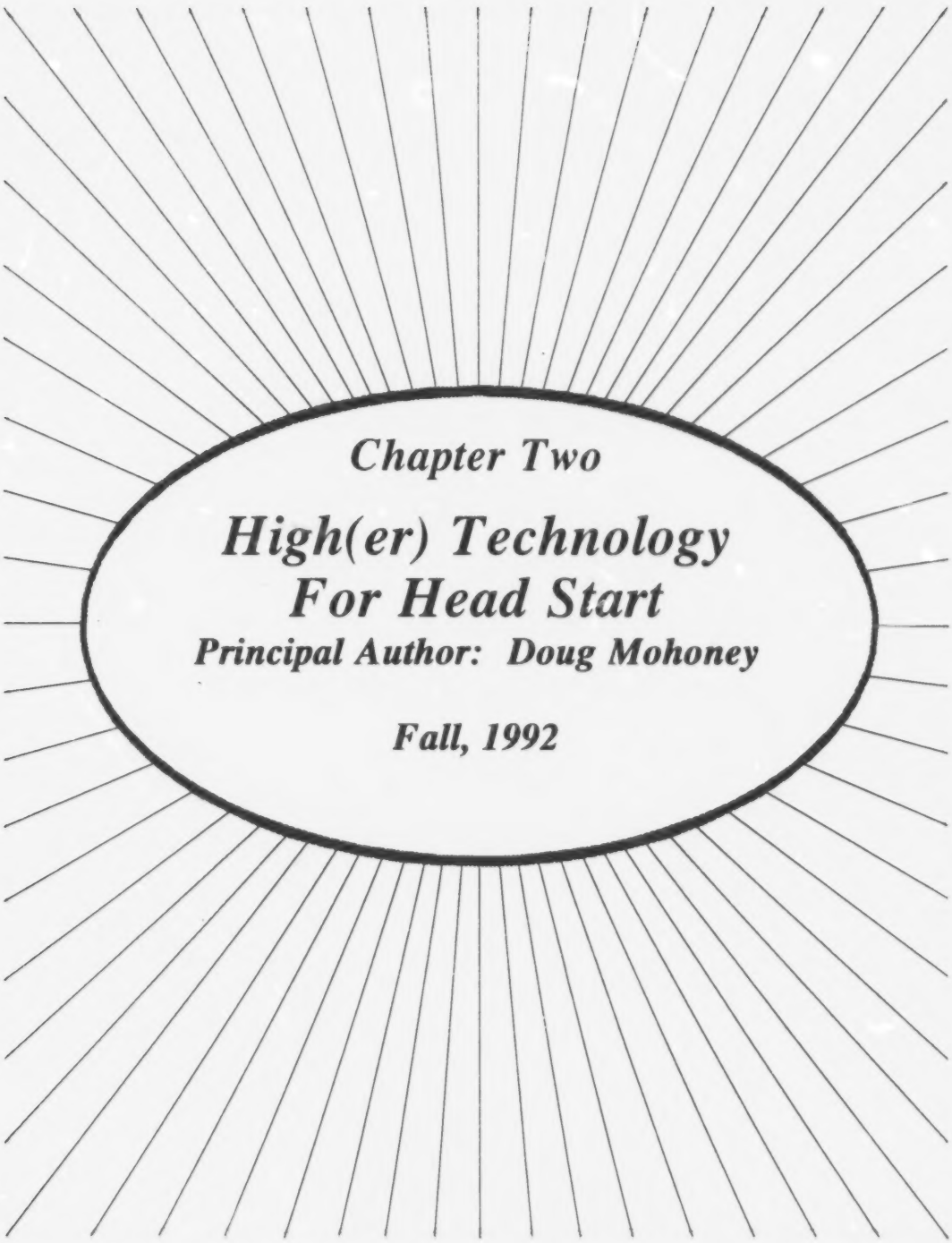
Facts++
Center for Human Services
Management, Inc.
250 West 57th Street 27023
New York, NY 27023
Contact Person: Paul Levine
(212) 489-6006

Head Start DATAtracker
InterAmerica
7926 Jones Branch Drive
Suite 1100
McLean, VA 22102
Contact Person: Shawn McBride
(703) 893-3514

Head Start Automated Management System
Hemingway Associates, Inc. &
Paradigm Systems
Number 302
McLean, VA 22102
Contact Person: Susan Wallace
(703) 893-5737

Head Start Decision Manager
Mobius Corporation
405 North Henry Street
Alexandria, VA 22314
Contact Person: Dennis Deloria
(703) 684-2911

Headstarter
Kaplan School Supply
P.O. Box 609
1310 Lewisville-Clemmons Road
Lewisville, NC 27023-0609
Contact Person: Jeff Miller
(800) 334-2014 Ext. 512



Chapter Two

High(er) Technology For Head Start

Principal Author: Doug Mohoney

Fall, 1992

Software

Computer Operating Systems

MS-DOS 5.0—Do it today!

Of all the software products available today, Microsoft's DOS (disk operating system) should have a big bright "Buy Me" sticker no matter what type of computer you have. Version 5.0 frees up working memory (RAM), which is especially important if you work with large programs such as Windows 3.0 or local area networks (LANs). Other features include a command stacker to recall a series of commands, UNDELETE and UNFORMAT to recover single files and disks from misfortunes, a full-screen editor, and a dry-but-useful online help for basic DOS commands.

Add an extremely easy SETUP program, which allows you to "fall back" and restore your old DOS if things don't go according to plan. The price is around $50 to $60. You can't go wrong.

DR-DOS 6.0

Digital Research's DR-DOS is a "clone" of Microsoft DOS. It has more features packaged into it and may come bundled (i.e., thrown in) with a machine you purchase. It's an acceptable alternative to MS-DOS 5.0, but the author's prejudice is to stick with industry standards (i.e., what everyone else does). If offered the choice between DR-DOS and MS-DOS, take MS-DOS. You may sacrifice some features now but save headaches later.

OS/2—The dark horse of upgrades

Once upon a time (1987), IBM came out with the PS/2 series of computers and a new operating system called (surprise!) OS/2. OS/2 was designed to be better than DOS, be able to do multiple things at once, take full advantage of the power of the computer hardware, leap tall buildings in a single bound . . . well, you get the idea.

The first versions flopped, miserably. Not many programs were written to take advantage of OS/2. You could only run one DOS program at a time, and it had certain restrictions (yes, this sounds like Windows). Further, you needed *LOTS* of RAM and hard disk space for it—a whole 4 MB and at least a 40 MB disk. It was very expensive and hoggish of computing resources in 1987. People felt a certain uneasiness about OS/2. They felt that OS/2 would only run on IBM hardware, rather than the IBM-compatible hardware they had spent money on.

Enter 1992. Powerful hardware has become less expensive, and Windows has desensitized people to hoggish programs. IBM has gone to its customers to ask them what they want and need, and has spent close to five years refining OS/2. From its first steps in version 1.0 to a full rewrite in 2.0, IBM has reworked the code to require fewer resources.

Why is OS/2 important now? It can run multiple DOS programs, Windows, and OS/2 programs at the same time. So you could have multiple DOS applications plus a couple of Windows programs all running at the same time. It provides "Windows better than Windows," in that each Windows program has a protected area in which to run. If the Windows program dies, it doesn't take all the other programs running with it or force a reboot of the machine.

IBM has taken a lot of time and energy to get OS/2 right and should offer a more stable environment in which to run Windows.

Windows

Windows is Microsoft's answer to Apple Macintosh. It provides a graphical user interface, or GUI (pronounced "gooey"), with little symbols, or "icons," representing functions and pull-down menus. It uses a pointing device, usually a mouse, to "point" at items on the screen and then click on them. Most manufacturers are starting to bundle Windows with their other software.

Beyond the pretty screens, Windows, a program that sits "over" DOS, provides some basic standards on how programs should operate under it. All Windows programs use a standard way to retrieve and save files, print, and handle graphics, unlike their DOS counterparts, which use varying sets of commands.

However, the ease-of-use that comes with Windows has a price tag attached. Realistically, you need to have a computer with the hardware listed in the chart on page 4.

If your systems don't have the minimum requirements listed, upgrading them to the hardware needed could be quite expensive. You may be better off purchasing a new machine. However, a "generic" PC meeting the above specs has a purchase price of as little as $1000; name brands are slightly higher at $1500–$1750.

Further, if you exploit the graphics capabilities of Windows programs, such as the many fonts that are now a part of word processing and spreadsheet programs, you need either a 24-pin dot-matrix or a laser printer to produce decent quality output.

60

Item	Comment
Intel 80386SX processor (CPU) (the *brains* of the computer)	Purchasing an 80286 machine could be a mistake. The price difference between the '286 and '386 is minimal, but the '386SX can process more information faster then the '286 and can perform functions that the '286 cannot perform.
4 MB of RAM	Heftier programs, such as Pagemaker, demand 4 MB of RAM.
Color VGA monitor	Needed to prevent blindness and to see the pretty colors and details in Windows.
Mouse	Another piece of hardware to take up space on your desk. You may wish to consider a track-ball (a mouse lying on its back) instead.
40 MB hard disk	Another "standard" for most computers sold today.

Don't close the checkbook after you have purchased the hardware. Software programs written for Windows cost more than their DOS-based counterparts—anywhere from $50 to $100, depending on the program. All manufacturers are offering upgrade pricing for their products, so if you already have a legally purchased copy of, say, WordPerfect 5.0, you pay the current list difference ($50) between the DOS program and its Windows counterpart.

Windows is a complex software package, and it is not perfect. You can start up more than one Windows-based software package at once (such as Lotus 1-2-3 in one window and WordPerfect in another), but only one DOS "window"/DOS-based program can run at a time, and the DOS program may have some constraints put upon it. DOS communications programs, like Procomm, do not work well under Windows.

Under certain circumstances, depending on the configuration of your computer, Windows 3.0 will crash. Sometimes, it will be nice enough to put an "Unrecoverable Application Error" message on the screen before it forces you to reboot. At other times, it is less polite and locks everything up without warning. Windows 3.1 is supposed to stop programs that misbehave from taking out everything on your system.

Should your program use Windows? You may not have a choice in the matter, because some programs, such as PageMaker, require you to have Windows installed on your machine. You may wish to run some programs under Windows and exit out of it for others, especially if it comes packaged with your new computer. Or you may want to stay with DOS. There's no disgrace in sticking with your current setup, and no hurry to change, because Windows will still be there next year.

Windows 3.1 should be out in the fall of 1992, and will have more of the bugs eliminated. If you must have Windows, see if you can wait until 3.1 is available.

Applications Software

Mapware

"Mapware" is a term coined to address the proliferation of software that works with maps. It encompasses road-map software, such as Automap, and the more sophisticated geographic information systems, which can match economic and ethnic data to ZIP-code areas or census tract plots.

Automap is the most popular of the road-map software. You indicate a starting point and ending point, and whether you prefer to travel over highways or back roads. Within 20 seconds, it generates the fastest route and a couple of alternatives, providing both a written list of directions and a graphic map of your route, plus an estimate of travel time based upon your preferred driving speed. You can provide up to four waypoints to pass through, making this a very useful program for circuit riders.

At $79 list price, it's a good deal, but not perfect. You need a VGA monitor and a fast computer to get snappy response time out of it. The graphic map printouts need some work to recreate the plotted route in detail, although they're passable on a color printer. They only get you from town to town, not to an individual street in town (at least with this version).

BEST COPY AVAILABLE

Hardware

Laptop/Notebook Computers

Does a laptop computer have a place in your program? Certainly, laptop computers have become less expensive and more capable. Recently, Texas Instruments TI2000 Notebooks—with 2 MB of RAM, a 20 MB hard disk, an 80286 chip, a monochrome LCD screen with VGA graphics, and a 3.5 disk drive—sold for $880. You could purchase an external drive for around $140 more. More capable '386SX machines are running around $2000. Even Apple has gotten into the act with a pair of new laptops.

Some Head Start programs are already using laptops for registration. Staff members take them along to record information on the spot and then transfer the information into the database at the central office. Most Head Start-specific software packages can import information collected on other machines and consolidate everything into one central database.

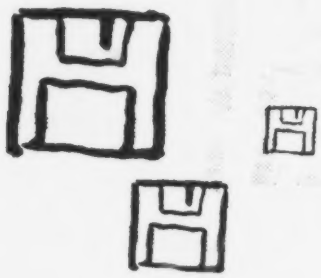
Home visitors and other employees who must travel to centers, homes, or meetings can carry along laptops to work on tasks on the road. If the laptop has a modem, critical information can be transferred back to the home office.

Many software packages are available now to facilitate the use of laptops. File transfer programs such as LapLink, FastLynx, and PCTools use special software modules; a parallel cable allows two machines to quickly exchange information. For dedicated road warriors, remote access software, such as PCAnywhere or CarbonCopy, can allow staff members to run by remote any application installed on an office computer, provided both machines have modems.

LANs

A local area network, or LAN, allows you to connect two or more computers to share printers, data files, and programs. LANs are especially nice if you have a number of PCs that need to share a laser printer or a centralized set of records (i.e., children/family information), to which more than one staff member needs easy access.

There's no magic point where one must (if ever) buy a LAN. However, if several people are waiting in queue to use the laser printer or the computer that has a child-tracking database, it may be time to consider a LAN.



LANs are not cheap, but they have become more affordable. Excluding wiring costs and software and network cards, LANs cost around $250 per machine for small installations (2–4 machines) to do simple print and file sharing between machines. Programs with 5–25 machines will want to purchase a dedicated computer, or file server, with a big (200 MB or larger) hard disk, lots of RAM (8 MB), and a tape backup.

Wiring is another consideration. If the machines are relatively close together, it's not a problem. If you have machines spread out through a number of offices in the building, however, you will need to get a consultant for expert advice on the type of wiring to use. You can use either thin wire (coaxial cable, similar to what you find for cable TV connections) or 10Base-T (telephone wire and snap-in connectors). Newer buildings provide generic sets of telephone wire that you can use for either voice or data. If you are renovating a building or floor, take the opportunity to put ample phone wire and jacks in the walls, some for phones and some for LAN use. It's minimal extra cost in materials and practically no extra labor. Get "shielded twisted-pair" wire for the extra protection from electrical noise.

One of the key benefits of LANs is centralized backup. One computer with a tape drive is set up to back up all the hard disks on all of the computers on the network. This computer then could dump any new files or data onto one tape.

Modems

Modems are the devices used to transmit data over telephone lines. Three years ago, 2400-baud (240 characters per second) modems cost between $250 and $300. Today, it's rare to find one over $150, but these modems do not have built-in data compression and error correction. Error correction, the ability to sense and adjust for line noise, is a nice feature to have in a modem. However, you need compatible modems for error correction. Similarly, data compression, taking information and "squishing it" to send it faster, also requires compatible modems that can compress (and decompress) on a connection between two machines.

Fax modems and 9600-baud modems are getting cheaper, but neither are necessities. Consider how you use a fax: you fill out a form, sign it, and fax it to someone. Getting your signature into the computer requires a scanner; pasting the graphic image into the prepared document is another headache. Keep your fax machine.

High-speed modems of 9600 baud and faster start at $300 to $500. One is needed at each end of the transmission. Unless you move a lot of information between centers or over long distances, you don't need a high-speed modem. If you wait a year or two, prices will drop to what 2400-baud modems cost today.

Tape Drives

A tape drive is a device like a tape recorder that reads data and writes it onto a tape. If you don't own one to back up your important information, you should. Small drives are dirt cheap, under $200 for 60/120 MB drives. Larger ones that can store up to 1000 MB of information cost around $1200, a perfect addition to any large LAN.

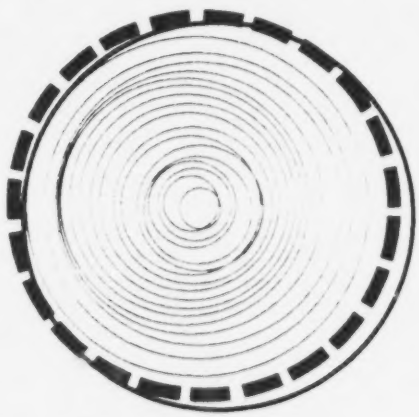
Laser Printers

Laser printer prices have dropped, and there are more varieties to choose from. The "personal" laser printer costs around $1000 list price, comes with few built-in type styles (fonts), and prints at an advertised speed of four pages per minute. Unless you have a small program, personal laser printers aren't very attractive because they offer limited expansion. They aren't suitable for sharing among a group of computers because of their printing speed.

Full-featured laser printers cost around $1500 list price and print eight pages per minute. They usually come with a decent variety of built-in fonts and are more expandable. They can be shared among small work groups.

Speed junkies and LAN managers love heavy-duty laser printers. They list at $4000 and up, but print 12–17 pages per minute. These printers have a number of features, including dual paper trays and expansion slots for adding network cards.

While there are many brands available, you can't go wrong by buying Hewlett-Packard (HP) laser printers. HP laser printers are the standard-setters for the rest of the industry and their prices are competitive.



CD-ROM

CD-ROM (which stands for compact disk–read-only memory) technology borrows directly from the audio compact-disk world: CD-ROM players that cost $300 to $400 can play music disks as easily as they can retrieve data. Information—be it the sounds of a rock group, a set of still pictures, or 325,000 pages of information—is written onto a master plate. The master plate serves as a mold to stamp out a CD. A laser beam reads the stamped-in information from the disk. Information on the current 4.72-inch CDs can't be changed.

CD-ROM is an attractive technology because you can store large quantities of information in a portable format, and you can reproduce the information at a dirt-cheap price. A single CD-ROM can hold around 600 MB of data, equal to 325,000 pages of information. A limited run of 100 CDs costs around $1400, and includes creating a master plate. Simple math breaks this down to $14 per disk, with more disks after the first hundred costing only $2 to $3 a disk for the physical medium. CD-ROM drives start at $300–$500.

Being able to distribute large amounts of information on CD-ROM has enormous possibilities. For example, Counterpoint Publishing of Wellesley, MA, is distributing the *Federal Register* on CD-ROM; each disk holds six months of the *Register*, plus the search software needed to access the information. The Department of Commerce

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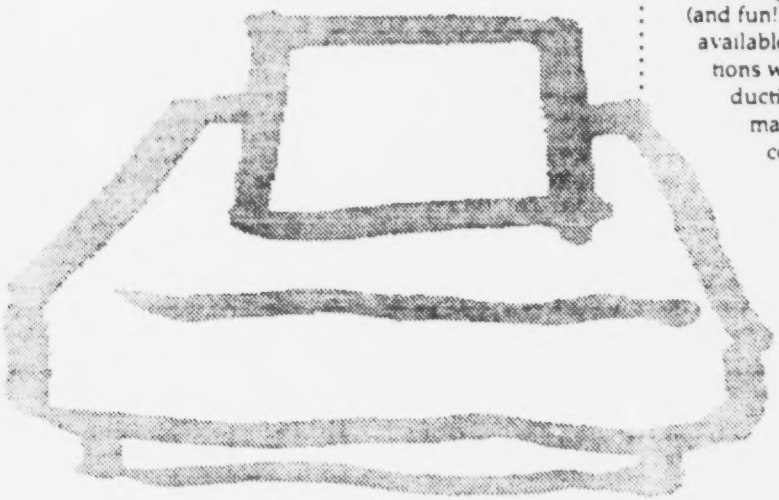
puts out detailed statistics on population, income, and employment on CD—a useful source for Community Needs Assessment. Anyone needing to find how two different types of medications interact could check *The Physician's Desk Reference*, which is available on CD.

It is conceivable that every federal document having to do with Head Start could be put on a single CD, including Head Start performance standards, SAVIs, information memoranda, all the copies of the "Head Start Bulletin" with pictures, the national directory of Head Start programs, summarized PIR data for the last 10 years, and whatever else comes to mind. Handicap/nutrition people could receive compiled materials from all the RAPs, Resource Centers, and public-health centers, perhaps adding commercially published materials when economical and appropriate. When searching this information, it would take only seconds to find references to transportation, health-screening standards, or any other topic.

Certain CDs are not cheap. A one-year subscription to the *Federal Register* on CD-ROM costs over $1000 but assures that an updated CD is mailed to you every week of the year. *The Physician's Desk Reference* is $595.

Compact disk interactive, or CD-I, incorporates a CD player with a TV hookup and a simple control panel, allowing people to scroll through pictures and text at their own pace. CD-I players are not (yet) compatible with your ordinary computer because of two different sets of standards: one by Commodore and one by Phillips. The design of CD-I players is for ease of use in the home rather than ease of use in an office, business, or research environment.



Multimedia

"Multimedia" is destined to be one of the great buzz words of the '90s. You could build a multimedia PC by taking a powerful PC that runs Windows and adding a fast-access CD-ROM drive and a board to produce stereo sound. By putting sound, pictures, full-motion video, and text information on a CD, then adding the proper software to glue everything together, you would have the basics for a multimedia PC.

Multimedia provide powerful learning tools for all classrooms, whether they are populated by preschoolers or adult learners. Self-paced instruction is possible, and learning is interactive rather than by rote.

Imagine the "Living in Space" curriculum as an interactive activity using the computer. Children could explore the solar system at the click of a mouse, pulling up images of the planets as taken by the Voyager spacecraft. A teacher wanting to use worksheets as a part of learning activities could select the ones desired from the disk and print them.

Fiction? IBM and National Geographic produced "Mammals: A Multimedia Encyclopedia." Students and families who use this can select from over 200 animals, then, for instance, look at a still picture of a tiger or a short video clip of one running, with full sound of the growling cat in the background. The multimedia encyclopedia provides, through pop-up fact boxes, habitat maps and essays describing the selected animal. It includes a set of games to test knowledge. It's available today for $149 list price.

Multimedia have certain headaches. Applications take time to create because of the complexities involved in interweaving sound, text, pictures, and video in a coherent (and fun!) fashion. Toolkits to create multimedia are available, but it will be a while before small organizations will be able to create their own multimedia productions. Obtaining permission to use copyrighted material for mass distribution is a major legal complication.

While multimedia might not be commonplace today, they are coming. Opportunities exist for converting current curricula to multimedia-based applications, especially in multicultural education.

Management Issues

Planning

You need to have some sort of computing plan. Depending on the size of your program, you may have a simple one (get a computer, train both of the staff) or a complicated and formalized one (upgrade the office machines, move the old machines into a classroom for adult education purposes, get the 15 centers up and reporting to the central office via modems).

Having a plan gives you the advantage of knowing where you want to go. If grant or expansion money becomes available, you can go out and confidently get what you need, be it more hardware, software, or staff training.

You should pull out and revise your plan two or three times a year. One revision should be in the spring, so you can get staff trained and install new equipment by the time summer rolls around, and another should be before your grant application process begins.

Buying computer hardware and software is easy, but you should prepare to set aside funds and (more important) staff time to get the most out of your purchase. Staff members will need training, and they will need time to practice what they've learned in the classroom.

Downsizing (or, good things come in small packages)

Many larger agencies have invested a lot of money and effort to purchase a minicomputer, a single machine that can support a number of people at different terminals at the same time. The minicomputer provided centralized storage of data, backup, printer services, and software. Adding more people was relatively cheap if the minicomputer could handle the load, and it was easier to support remote users dialing in via modem.

Today, agencies are looking at the ongoing costs of keeping their minicomputers running. Maintenance contracts run into the thousands of dollars and are directly proportional to the age of the machine. The older the hardware, the more expensive the service contract, not to mention the thousands of dollars of software.

Moving from a minicomputer to a group of networked PCs can save a lot of money. Consider this:

Minicomputer child-tracking package	$10,000–$37,000
PC child-tracking package	$2000 maximum
Hardware:	
PC file server	$3000
3 PCs	$3000
Total for PC	$8000 maximum

Purchasing Hardware and Software

Mail order

Mail order used to be for the brave and the knowledgeable, but not anymore. If you know what you want to buy and how to install it, mail order is a great way to save money on hardware and software, especially if you are in a rural area far away from price competition in the big city. Mail order is not as attractive in urban areas, especially when buying software, because of shipping and handling fees.

Ordering hardware by mail or phone sounds risky. It's not. Most mail-order companies offer good value for the dollar, especially when compared to the "champagne" brands such as Compaq and IBM (even with the Head Start educational discount). They normally include a mouse, better graphics, and more RAM as a standard option. Going beyond that, mail orders give you 800-number hotlines, 30-day money-back guarantees, and one year of on-site service. If something breaks, you call service and they're out in 24 hours.

Too good to be true? Many mail order companies sweeten the pot by throwing in MS-DOS 5.0 and Windows 3.0, even installing them for you on the hard disk. A few go further and add applications software with the deal.

The following chart is based on information in *PC Magazine* of December 17, 1991. Actual "goodies" will vary based on competition and various promotions. Companies are listed simply as examples of what's available in the marketplace and are not meant as endorsements.

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Company	800 Number technical	On-site warranty	DOS	Windows	Other Software
Acma	Yes	1 year	5.0	Yes	No
Austin	Yes	1 year	5.0	Yes	No
Dell	Yes	1 year	5.0	No	No
Gateway	Yes	No	5.0	Yes	No
Insight	Yes	No	No	Yes	No
Zeos	Yes	No	5.0	Yes	Yes

Retail outlets

CompUSA and Egghead Software are two examples of retail chains available in metropolitan areas. You can think of them as the WalMart and discount bookstore of purchasing computers and software.

Upgrading and replacing equipment

Hardware prices are on a consistent march downward. You may be better off purchasing a new computer than fixing a broken system that isn't under a service contract. Proper replacement parts may be difficult to find, and the cost of parts might be as much as a new system.

Purchasing another system is a necessity if your current equipment is not capable of running advanced software. If you need to run Windows and your computers are over four years old, you might as well get your checkbook out. If you buy a couple of new systems for the office, you can sometimes move older systems into the classroom (with the appropriate plastic covers over the keyboard for the children's use).

Chapter Three

Fund Accounting Software Review

Principal Author: Anita Vestal

Fall, 1992

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Kenneth Gilbert, Finance Director, Dallas Head Start, Dallas, TX

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Mary Halvorsen, Computer Operations Coordinator, Community Action Committee of Victoria, TX

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James Jarvis, Comptroller for the Community Action Organization of Scioto County in Portsmouth, OH

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Overview

The National Data Management Project has undertaken a review of fund-accounting software systems for program-and financial-management staff members who are struggling with less than optimal accounting systems. The three systems reviewed here were selected because of their successful implementation by several Head start installations. There are undoubtedly many other accounting software systems that meet the needs of Head Start programs. Inclusion of any product in this review should not imply endorsement; exclusion of any product from this review should not imply inferiority. This review is an attempt to introduce the concept of fund-accounting software systems as a potential improvement to grantee-accounting systems that are inadequate.

What is Fund Accounting?

A fund-accounting system is one that separates financial activity into distinct groups (or funds) that are interrelated. Each "fund" contains a separate self-balancing set of accounts used to record financial activity. Software designed for fund accounting should provide for automatic balancing between funds. This type of accounting is sometimes called "due to" and "due from" accounting.

Head Start grantees usually maintain multiple projects, each having its own service objectives, funding and reporting requirements, and budget. Each project also has its own assets, liabilities, and equity balances. Fund-accounting software must be able to manage interfund transfers, balance interfund receivables and payables, and produce financial reporting that not only separates (and combines) the funds but also spans fiscal years. Also important is the ability to have two fiscal years operable; in other words, when a new fiscal year begins, fiscal managers should be able to keep the previous year open or reopen it until the audit report is completed.

A good fund-accounting system allows easy setup of funds and generation of fund specific reports. Users should not have to repeatedly enter the same accounts in each fund; the system should automatically copy the accounts into all appropriate funds.

Evaluation and Selection Criteria

In evaluating a fund-accounting software system, an agency should carefully interview several current users to determine if the system has been satisfactory. The checklist that follows may be relevant in the selection of a fund-accounting software system.

- Can a user purchase the system in a modular format (i.e., General Ledger, Accounts Payable, Payroll), one or two modules at a time? Is this the best way to proceed under the circumstances?
- Is customization possible? If so, how are custom-designed programs developed to ensure compatibility with the system? How much custom work is necessary for the program to perform adequately for Head Start?
- Is redesign of the accounting system a part of the vendor's service.
- How flexible is the system in producing special reports that are specific to individual funding sources? And how easy is it to learn to produce these unique, user-identified reports?
- How much accounting and computing knowledge is necessary to set up and operate the system?

- Does the vendor provide a satisfactory and affordable approach to installation, training, and ongoing support?
- How much time, effort, and expense is needed to make the transition from the agency's current system to the new one?
- Is the auditor satisfied that sufficient documentation and audit trails regarding the source and use of funds exist?
- Are security levels adequate?
- Does the system provide detailed budgeting by component, county, and center?
- Can funds be segregated without using separate bank accounts?
- Can multiple fiscal-year projects be tracked within a single general ledger?
- How can the fiscal tasks be organized for more efficient operations?

When asked what criteria the agency was looking for in selecting a fund-accounting software system, financial managers had these responses:

> "...cost allocation, encumbrance accounting, and the ability to reopen periods." (Barbara Decker, Newark Preschool Council)

> "...multiple and overlapping funding years, reports for single fund." (Myra Rennick, Community Action Program of Western Indiana)

> "...month-end closing, payables by project, and grouping costs by categories." (Velmon Allen, Costal Georgia Community Action Agency)

The accounting and financial management software systems reviewed int his article are:

> **FundWare**—developed by American Fundware, Denver Colorado. The company has been in business for 15 years. The phone number is 800-551-4458.

> **GMS**—developed by Grants Management Systems, Kensington, Maryland. GMS was introduced nine years ago. The phone number is 301-933-3500.

> **MIP**—developed by Micro Information Products, Austin, Texas. They have been in business for nine years. The phone number is 800-MIP-FUND.

We believe all of these systems are appropriate for Head Start agencies. It is our opinion that each system has individual strengths; one system may better serve a particular agency depending on certain criteria. For instance, FundWare is a dense system that is better suited for very large agencies that have sophisticated levels of financial computer experience as well as plenty of disk space on their computers. GMS is well suited for any size agency, even if the fiscal staff is composed primarily of bookkeepers; GMS software cannot be purchased without training and installation because of its contemporary structure. Most GMS users pay an ongoing monthly fee for accounting assistance, upgrades, and maintenance. MIP is a system that is easy to learn and operate for average-sized agencies with limited budget resources.

American Fundware

Description of Modules

FundWare is a fully integrated accounting and financial-management software system for nonprofit organizations and governmental agencies. FundWare automatically handles interfund transfers, fund balancing, and financial reporting. The FundWare system is composed of a number of interrelated software modules.

The modules available are General Ledger, Extended Report Writer, Accounts Payable with Purchase Order, Accounts Payable with Obligation Tracking, Accounts Receivable, Project/Grant Reporting, Budgetary Control, Budget Forecasting, Payroll, and Fixed Assets. Since General Ledger and Accounts Payable are the modules most agencies start with, these modules are described below.

The General Ledger module follows double-entry bookkeeping standards, describing and recording entries in three journals—Cash Receipts Journal, General Journal, and Budget Journal—for posting to ledgers. The General Ledger account-number structure has up to 18 digits that the user can define; or the user may choose to follow a preset structure for account codes offered in the software.

The General Ledger module has six menus that are organized to follow the normal work flow of that portion of the system. The six menus are Inquiry, Maintenance, Transaction Entry, Periodic Processing, Reports, and Setup.

The Inquiry menu contains tasks that allow the user to look up a record, retrieve specific information about the record, or scroll through a list of records. The kinds of information found in the Inquiry menu include account numbers, account descriptions, account balances, and account detail, as well as recurring, imported, and saved journal entries and system definitions.

The Maintenance menu contains the tasks used to enter account numbers, descriptions, and other account information into the computer and to print lists of accounts.

In the Transaction Entry menu, one can make entries to any of the three ledgers—actual, budget, and encumbrance. Tasks on this menu allow the user to make reverse journal entries and to post recurring and imported journal entries.

The Periodic Processing menu is used to perform maintenance tasks at the end of a fiscal period or at the end of the year. The menu contains the tasks used to start and end fiscal years.

The Reports menu contains tasks used to define, maintain, and produce reports from the journals and ledgers that contain the agency's records. There are numerous reports available, such as Financial Reports, Revenue and Expense Reports, Combined Reports, Transaction Reports, and Master Record Lists.

The Accounts Payable module is one of the main modules in the FundWare system. This module helps to manage agency purchases from the time the decision to purchase something is made until the time the purchase is paid for and the check is reconciled.

As with the General Ledger module, the Accounts Payable module has the flexibility for the user either to design various stages in the Accounts Payable module or to follow the stages defined by the software. Once entered, an obligation to purchase can move through seven stages: Initial Order or Purchase Requisition (optional), Purchase Order (optional), Invoice, Approved for Payment (optional), Marked for Payment, Paid, and Reconciled.

Training and Technical Assistance

There are multiple training options available for FundWare users. The company offers basic user training at the corporate offices in Denver and monthly regional training classes in various locations. Special modem sessions are available with advance scheduling. On-site training may also be available from an authorized reseller.

There is a computer lab in Denver where training sessions are offered two weeks each month. The General Ledger, Accounts Payable, and System Manager modules are covered in three days for $895, with additional half-day sessions available for most of the other modules at $295. Payroll and Extended Report Writer modules each require two-day workshops, which cost $795. If you send more than one employee to training, each additional employee receives a 25-percent discount.

The regional training classes are taught in seminar fashion; some have direct hands-on experience. A lab exercise is included with each training manual for use after the seminar. The cost for the one-day workshops for General Ledger and Accounts Payable

modules is $495 each. Other modules presented in half-day workshops are priced at $295.

Janice Groth, general manager for American Fundware, said, "For those organizations who don't feel they can come to training, we can set up special sessions where we can use PCAnywhere to help them through some of the basic training via modem. For some of our larger organizations, we will go on-site to assist them in whatever way they need." She added, "We don't really train via the support line . . . we will try to find someone in the local area who can spend a day with them to help with some basic computer training."

Users interviewed had different approaches to training. Kenneth Gilbert, finance director with Dallas Head Start in Texas, believes the training is expensive. "We had no formal training; it was too expensive to purchase the system and go out of the area for training." He relied on the hotline, which was free, during his first year as a FundWare user four years ago. Dorothy Harper, finance director with Camden County Council on Economic Opportunity (CEO) in New Jersey, purchased the system with installation and the first year of support from an authorized reseller, the Center for Human Services Management (CHSM), based in New York City. Camden County CEO fiscal staff received two weeks of training on-site with CHSM, she recalled. "One of the reasons we went with CHSM was that we could not afford to go to Colorado when we bought the system," she said. Now the agency receives support from the FundWare support line.

FundWare is not a system for the novice. "A high degree of sophistication is required both in computer expertise and in accounting knowledge to gain satisfaction from the system. FundWare's power imposes an overhead of learning to use the system because it is so dense," said Barbara Decker, management information systems director for the Newark Preschool Council. Dave Davis of CHSM illustrated FundWare's power by comparing it to a magnificent mansion, where only a few of the rooms would ever need to be used by the average Head Start agency. In commenting on the Extended Report Writer module, Kenneth Gilbert noted, "There is a tremendous learning curve. A beginner or novice would not be ready to work with the Report Writer. It takes programming knowledge as well as accounting knowledge to format the reports in a spreadsheet," explained Gilbert.

Hardware and Software Required

FundWare runs on a variety of hardware and under many different operating systems. Acceptable hardware includes IBM PC, XT, AT, and compatibles; IBM PS/2 Series; and IBM RS/6000.

The minimum requirements for the computer are as follows:

- 640 kilobytes of RAM
- At least a 30-megabyte hard disk
- A heavy-duty, wide-carriage printer
- A keyboard and monitor (monochrome or color)

A math chip is not required.

FundWare is available in several versions of COBOL, depending on the computer and operating system. Operating systems and LANs include MS-DOS, Xenix, UNIX, AIX, Novell, PC-NET, Banyan, and most other network operating systems.

All FundWare users interviewed for this review are using the system in a networked environment. The agencies are very large—with over 1,000 children enrolled. Two of the agencies have over a dozen workstations, some at remote sites.

Favorite Features

In describing FundWare, two words are heard again and again . . . "powerful" and "flexible."

Barbara Decker likes the system for the encumbrance-accounting capability, its ability to reopen years, and its power. She said that fiscal managers like the audit trails that are automatically produced by the system. "Program managers [such as the Head Start director] like the ability to enter purchase orders in a preapproval stage . . . this allows up-to-the-minute knowledge of available, unexpended funds."

The Head Start director of Camden County CEO likes the ability to track activities in each individual center, according to Dorothy Harper. "The bookkeepers love the aging [past due] Accounts Payable report," she added. As for herself, she said, "I like the Budget Forecast module. We have a state grant that requires total agency reporting on their application. The Budget Forecast, which resembles a Lotus spreadsheet, makes this task much easier."

Kenneth Gilbert's agency has 25 Head Start centers. "The Board likes to compare overall actuals to budget and see the variance from the budget," he said. He has learned to design special reports in the Extended Report Writer, which, he said, ". . . is the answer to a prayer." He added that all the reports are very useful.

FundWare is an "on-line" system. Barbara Decker explained that ". . . the ledger is always current once a transaction is posted. In a larger agency, such as the Newark Preschool Council, where component managers may maintain a mini set of unofficial books for their own department, all the financial data is at their desk. They can look up and know at any point in time what are the requisitions, what is encumbered, and how much is available to spend in their budget without having to look at the entire accounting system."

When asked about the support provided by American Fundware, users agreed that the staff is very knowledgeable. "They are fairly responsive," said Kenneth Gilbert, "but when work is shut down, waiting an hour for a response is too long." Dorothy Harper finds them very patient and said that the Fundware support line provides a fast response.

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Grants Management Systems

Description of Modules

Grants Management Systems (GMS) is a totally integrated accounting and financial reporting software package designed specifically for public and nonprofit organizations receiving contract and grant funds. Among its features are:

- Elimination of separate grant and contract funds by using cost-center and activity accounting (also making due-to and due-from transactions unnecessary)
- Data-entry procedures for timesheets, vouchers, receipts, journal entries, and manual disbursements, regardless of the number of accounts
- Batch-system operation to facilitate cost allocation on a monthly basis
- Complete month-end general-ledger posting and financial reporting, including components for timesheet reporting and a wide variety of cost-allocation procedures
- On-line cost-accounting capability for Head Start components
- Fully automated accounts-payable maintenance and check writing
- Timesheet-generated payroll that supports tax-sheltered deductions, leave-balance processing, expense reimbursements, and all quarter and year-end activity
- Entry and printing of opening general-ledger balances and prior year revenues and expenditures for programs that have a different contract year than the agency fiscal year
- Integration of fiscal periods within the organization's general finance system
- Completely automated backup procedures

There are ten functions available through GMS. The system is fully menu-driven, with the main menu listing a choice of Master File Maintenance, Accounting Data Entry, Monthly Processing, Budget Data Entry, Prior Year Data Input, Accounts Payable Checks, Payroll Procedures, Backup Procedures, Diagnostics, and Supplemental (Modules).

Master File Maintenance involves either the creation or updating of information that needs to be accessed frequently and stored permanently. GMS maintains four master files: Employee Data, General Ledger, Program Elements, and Vendors.

Accounting Data Entry within GMS involves five types of accounting transactions: Timesheets, Vouchers, Cash Receipts, General Journal, and Manual Checks. This is where the majority of work is performed during the month. Transactions are maintained in batches to help keep data organized. General-ledger accounts are not updated until transaction data is verified.

Monthly Processing consists of steps that are followed each month (or each reporting cycle) to update the general ledger and cost reports, and to produce the financial reports. They are Timesheet Reporting, General Ledger Listings, Cost Allocation, and Financial Reporting. A feature of Financial Reporting quickly provides the status of accounts at any time during the month.

Budget Data Input handles data for five levels of budgets: Project/Program Budgets (including Head Start and other grant projects), Indirect Cost Budgets, Fringe Benefit Budgets, Timesheet Budgets, and Agencywide Budgets.

Prior Year Data Input provides an innovative approach for maintaining information on projects that span several fiscal years. This is a result of the integrated nature of the GMS software that performs all accounting and reporting from a single general ledger, thus eliminating separate funds and the need for interfund transfers.

Accounts Payable Checkwriting results in the automatic preparation of accounts-payable checks based upon data entered during voucher procedures. Screen display of open accounts payable permits the user to pay full or partial amounts. Payments are automatically sorted by vendor to streamline check preparation.

The module on Payroll Procedures information involves the processing of payroll information and the printing of paychecks and payroll registers. This process draws upon data in the Employee Master Files and current period timesheets entered in Accounting Data Transaction Entry.

The module on Backup Procedures enables the user to produce a diskette copy of all system files and data automatically.

In addition to the basic system described above, GMS offers over 50 supplements to the system; these are minor programs, custom-designed to enhance operations. These supplements are optional and cover a wide range of topics—from Payroll Deductions Listing to Combined Projects Reports, to Complete 1099s and a Label Maker. They enable users to expand accounting and reporting functions to suit their particular needs. Cost for the supplements ranges from $25 to $500, with most supplements priced in the $100 to $200 range.

GMS has also piloted an "add-on" system that tracks Head Start financial management by service components. GMS partner Don Berkheimer is closely following the Interim Budget Regulations, issued by ACF in October 1991, that require new budgetary reporting for Head Start budget services. Company policy ensures that GMS allows users to meet all Head Start budget regulations with built-in, automatic cost allocations.

Training and Technical Assistance

When users purchase GMS, they purchase a turnkey operation that includes software, training, installation, and conversion of their current system. As Don Berkheimer explained, "We understand grants management, we understand cost allocation, and we understand the full range of accounting in multifunded institutions. When we install a system, we spend two to three weeks on-site over a 60- to 90-day period to get it transitioned." Once the GMS staff completes the initial installation, setup, and training, the agency usually does not need additional on-site assistance, according to Berkheimer. Each conversion is accompanied by a complete redesign, placing the organization on a new accounting plateau.

After the system is purchased, users are on a full-service agreement for the first year; after the first year full service is optional, but most users continue the agreement. Included in the service agreement are telephone and modem support, maintenance, and upgrades. "The majority of our calls are not related to fixing the software; most calls are helping them with accounting and financial-management reporting," said Berkheimer.

Users interviewed are very pleased with the technical support from GMS. Veronica Blanco, management information sytems consultant for The Agriculture and Labor Program, Inc. (ALPI), of Winter Haven, Florida, said, "The telephone support is excellent; I have yet to be disappointed with the turnaround. I can fax a question at night and have my answer in the morning!" Velmon Allen, deputy director of administration with Coastal Georgia Area Community Action Agency (CAA), described a situation where a payroll problem kept them at work until midnight. "GMS was right there on the phone with us all night until we had the problem solved," she told us. A similar situation happened to Linda Blackwell, director of fiscal management for LIFT, Inc., in Tupelo, Mississippi. She was working on a Saturday, preparing for the year-end closing of the books, when she ran into difficulty. By chance she found a staff person available at GMS to help her through the problem.

One feature that seems to set GMS apart from the other fund-accounting systems reviewed is the fact that the system can be operated by a bookkeeper with minimal accounting skills. Someone with an accounting background is not needed to operate the system, because GMS provides the technical assistance in accounting as well as computing. GMS blends fund accounting with grant and contract accounting to achieve a new model for Head Start.

GMS products and service are available exclusively from GMS, based in Kensington, Maryland, with staff in various parts of the country. Berkheimer believes that GMS will always maintain control of marketing and technical assistance. He said, "We have people with experience who know how to run the system, and who know grants management and the Head Start program."

Besides offering the telephone support and installation mentioned above, GMS invites users to an annual meeting that focuses on training. A monthly newsletter that covers many topics, relevant instructions, and helpful hints is also sent to all users.

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Hardware and Software Required

Single-user versions of GMS need an IBM or compatible PC, with the following:

- A 286 (or higher) processor
- A 40-megabyte hard disk.
- A printer with a minimum speed of 300 characters per second
- A keyboard and monitor
- A version of BASIC software—either GWBasic or BasicA

Users on a network need, at a minimum, an 80- to 100-megabyte hard disk, preferably with a dedicated file server and a separate printer for each workstation.

With the GMS approach, potential users can expect to be questioned by the GMS staff in regard to their commitment to the GMS philosophy when they inquire about purchasing the system. Since GMS staff members do the installation on-site, they will make sure the agency understands what equipment is needed to run the system.

Favorite Features

Asked why his agency selected GMS, Bernard Fulse, finance director for ALPI, replied, "Our existing [computer software] system lacked management information we needed for day-to-day decisions. It did not consolidate automatically . . . we had to add the Head Start Program Account (PA 22) and the Program Account for training and technical assistance (PA 20) manually. GMS looks at the organization as one . . . there is better report distribution, such as processing vendor histories." Linda Blackwell agreed. She said, "GMS has the ability to have one agency-wide financial statement without our doing a lot of combining entries or having to eliminate journal entries. It also has the ability to have individual projects or grants identified and elements within the grants identified. GMS allows automatic indirect cost pool allocations."

Velmon Allen likes the fact that GMS meets both the agency's in-house reporting needs and funding source requirements. She noted, "GMS allows us to budget for every project we are operating and share those budgets with directors and coordinators, then apply their expenses using our in-house chart of accounts collectively to all of the projects. It makes things more unified."

According to Allen, fiscal staff members like the ease of operation. "Prior to GMS, we used an IBM System 36. GMS is written in BASIC and we have a network with PCs. Everything is relatively simple. Someone who doesn't do payables every day, for instance, can assist in doing payables if we get backlogged. Someone who routinely doesn't do budget input can pitch in during heavy [budgeting] periods," she said. "You do not need a strong background in accounting to work the system. There are so many accounting principles built in that you do not have to worry about the operator's accounting knowledge."

Commenting on GMS's capacity for customization, Linda Blackwell said, "If I need a customized program, they will write it for me and it will be compatible with my financial system. One of the things I like about GMS is that they will discuss with you the pros and cons and whether there may be a more efficient or less expensive way to get the information you need."

Mary Jones is the Head Start director for ALPI in Fort Pierce, Florida. She meets quarterly with the finance director to review budget and expense reports to prepare for any budget revisions that may be necessary. She uses the accounts payable analysis to determine what bills were submitted and paid. She also uses payroll information. Her Policy Council Budget and Finance Committee is learning to compare expenses to the budget using the GMS financial reports. Noted Jones, "I am forced to design component budgets for the next grant application. . . . I am looking forward to using the budget modification supplement by project element to revise the Head Start budget."

Micro Information Products

Description of Modules

The MIP Fund-Accounting System is composed of six integrated modules. "Integrated" means that the system posts transactions in a central set of ledgers to which all modules have appropriate access. For example, a user entering an invoice through the Accounts Payable module debits an expenditure account and credits an accounts payable account. Once posted, this expenditure is automatically included in expenditure reports produced by the Budget Reporting module. In the same manner, an accounts payable credit is automatically posted to the ledger and appears in reports produced by the General Ledger module. The six modules are:

- General Ledger
- Budget Reporting
- Encumbrances
- Accounts Payable
- Accounts Receivable
- Database Interface

The General Ledger is the only module that can operate independently. A user can enter all basic types of transactions—cash receipts, cash disbursements, and budgets—using the General Ledger module. Disbursement checks and cash receipts can be printed with the General Ledger module. For a small agency with simple accounting needs, it could function as a "stand-alone" module.

Besides providing accounting functions, the General Ledger also provides system operational controls. The remaining modules cannot operate without the General Ledger module, because they depend on it for these system controls.

The other five modules feature specialized accounting entry screens, a budget worksheet, a check writer, and enhanced reporting capabilities. These modules can be added selectively according to the agency's needs. Some of the capabilities of the modules are summarized below.

The Accounts Payable, Accounts Receivable, and Encumbrance modules maintain their own subsidiary ledgers of vendor invoices, customer billings, and encumbrances, respectively. They include subledger reports and aging reports to help manage billing and purchases.

The Accounts Payable module provides an automatic check writer.

The Accounts Receivable module can print bills and past-due statements to customers. This feature would be appropriate for agencies that need to collect fees or payments.

The Encumbrance module allows the user to print purchase orders and record encumbrances for committed funds. With the Encumbrance module, the Head Start director can receive a more accurate and up-to-date picture of the financial status of Head Start funds.

The Budget Reporting Module is used to create and modify a budget worksheet from historical data previously recorded in Fund Accounting. The Budget Reporting module also displays budget information on screen, including budgeted and actual transaction totals by accounts and the budget excess or deficit.

Training and Technical Assistance

Users can choose from a variety of options for their training and technical assistance needs. For those who feel they do not need to purchase training, there is a tutorial built into the system. MIP offers training classes regularly at its Austin, Texas, headquarters. In addition, MIP has developed a set of Video Classroom training tapes that comes with a training guide. Some users may contract for on-site assistance with one of 20 local dealers authorized by MIP to sell and install the system. Finally, MIP has telephone support available through an 800 number and publishes a quarterly newsletter. Each of these options is discussed below, with some comments from Head Start agency personnel using MIP.

The training class held at MIP headquarters in Austin is a three-day course; about 20 computer terminals are available for hands-on practice. A fourth day of training is available for users who want to learn the Payroll and Fixed Assets modules. The cost is $495 for the first attendee per agency and $295 for each additional attendee per agency. The training guide, which accompanies the training, is 175 pages and contains practice exercises.

Myra E. Rennick, fiscal director for Community Action Program (CAP) of Western Indiana, highly recommended the training in Austin. James Jarvis, comptroller for the Community Action Organization (CAO) of Scioto County in Portsmouth, Ohio, attended the training class in Austin with five members of his staff for an approximate cost of $3,000, including travel and lodging costs. They had been using the system for some time before attending the class. Jarvis stated that staffers learned a lot while in Austin and were familiar with the material when they returned to Scioto to operate the system.

The Video Classroom training tapes were introduced to help offset the cost of training, according to Tim Ziegner and Barry Pigg of MIP. "We heard our users saying that training was expensive, and we developed a low-cost answer in the video training classes," said Ziegner. "We use the same training guide on the videotape and cover the same material that we use in training in Austin. There are built-in exercises where the user can stop the tape for the opportunity to have 'hands-on' practice just as we have [in Austin]," added Pigg.

The videotapes were produced professionally and consist of three sets. Set One includes four tapes covering the General Ledger: System Setup, Data Entry, System Operations, and Reporting. Set Two has two tapes: one covering Budget Reporting and Encumbrances/Purchase Orders, and one covering Accounts Payable, Accounts Receivable, and Database Interface. The third set covers Payroll. The MIP Video Classroom is priced at $195 per set.

The Community Action Committee (CAC) of Victoria, Texas, installed MIP in June 1990. Fiscal year 1991 is the first full year the system has been in operation. Mary King, finance director, went to the training class in Austin with other staff members before the system had been installed. She felt the three days was not enough time to become familiar with the system, for a staff with no previous experience with MIP. However, she has found the videotapes to be very helpful. "When I reviewed the tapes," she explained, "I discovered many features we aren't using that would benefit us."

Mary Halvorsen, computer operations coordinator with CAC of Victoria, agrees with King that training in Austin was not enough to begin to operate the system with confidence. But she feels she can learn what she needs to know from phone calls to the support line. Halvorsen said, "I have learned a lot just from phone calls [to MIP.] I call three or four times a week. I don't need to go to training again. I can get the information and help I need from the hotline."

Hardware and Software Required

The MIP Fund-Accounting system runs on an IBM personal computer or an IBM-compatible computer. The computer must be capable of running MS-DOS or IBM PC-DOS. The computer must have a 100-percent IBM-compatible BIOS (basic input/output system; BIOS is the method that the computer uses to communicate with other devices, such as the printer).

The minimum requirements for the computer are as follows:

- 640 kilobytes of memory
- A minimum 10-megabyte hard disk (40 MB recommended)
- A keyboard and monitor (monochrome or color)
- A printer capable of printing 132 characters per line
- DOS, version 3.1 or later

Both single-user and networked versions of MIP are available. Novelle is the preferred network operating system, according to Tim Ziegner, but the system will run on Lantastic, Novelle Lite, Banyan, IBM PC-LAN, OS/2, and others. MIP officials estimate that 30 to 40 percent of MIP users are network users, and this number is growing.

Favorite Features

National Data Management Project staff asked users to identify the features of MIP that are most useful to Head Start and the agency. The responses ranged from the simplified generation of IRS Form 990 to automatic allocations and ease of use. Mary King stated, "I like all the features—such as combining, allocating, and separating; MIP condenses paperwork."

Many Head Start agencies learned about MIP as a result of suggestions from their CPA or auditors. James Jarvis recalled, "In 1983, a local CPA auditor was aware of our needs. He read an article that MIP had developed a fund-accounting system. We contacted MIP in Austin, and I believe we were the first installation outside of Texas." CAC of Victoria also heard about MIP from their local auditing firm, and selected it after looking at several programs.

What are some of the features that finance office personnel like about MIP? Myra Rennick likes the ability to retrieve one fund with detail for any period needed. She also likes its flexibility, quickness, and user friendliness, which makes it easy to learn. Caroline Powell, Head Start bookkeeper for CAO of Scioto County, likes the on-line help screen, while her co-worker, Fanny Justice, likes the fact that checks are automatically posted when they are written. "It is easy to select reports," added Justice. Mary Halvorsen supports the notion that MIP is easy to learn. "I learned Payroll and Accounts Payable on my own, just playing with it," Halvorsen said.

How do users rate the support they receive from MIP? "They respond within an hour. . . ." "They are very good about listening to our suggestions for changes. . . ." "We have good rapport with MIP. . . ." These are some of the comments made by Head Start agency users of MIP. When asked if they would choose MIP again over another accounting system, all interviewees said "yes." Why? Here are some of their reasons.

"MIP is performing everything we need. There is no need to look at anything else. We would select MIP again for the support and upgrades we have had over the years," stated James Jarvis. Mary King said she would choose MIP again because it is "easy to learn and has lots of features." Myra Rennick would keep MIP because it has "good support, meets my needs, and offers continuous updates."

81 BEST COPY AVAILABLE

Table 1
Summary of Cost, Training and Technical Assistance, and Support Services

Software Title	FundWare	GMS	MIP
Vendor Information	American Fundware, Inc. 1385 South Colorado Boulevard Suite 400 Denver, CO 80222 800-551-4458	Grants Management Systems 10559 Metropolitan Avenue Kensington, MD 20895 301-933-3500	Micro Information Products 505 E. Huntland Drive, Suite 340 Austin, TX 78752-3714 800-647-3863
Cost of Software	General Ledger $1595 Extended Report Writer $695 Project/Grant Reporting $995 Accounts Payable w/Purchase Order $1295 Budgetary Control $695 Inventory $1595 Accounts Receivable $1295 Payroll $1295 Budget Forecasting $1295 Fixed Assets $1295 Allocation Management $2495 Restricted Access $2495 System Manager (Required) Single User $695 Multi Users (5) $1995 Multi Users (10) $2995 Multi Users (25) $4995 Multi Users (50) $7995 Multi Users (100) $9995	Purchase of GMS system includes fund-accounting software, training, and installation, as well as conversion of the client's current fiscal system. A full-service agreement that includes on-site training and technical assistance and unlimited telephone and modem support is mandatory the first year. Cost of purchasing and installing GMS varies between $8,000 and $15,000 depending on clients' needs and capabilities.	Single User / Network General Ledger $795 / $1295 Budget Reporting $595 / $995 Accounts Payable $595 / $995 Accounts Receivable $595 / $995 Encumbrance/Purchase Order $595 / $995 Interface $295 / $495 Payroll $795 / $1295 Fixed Assets $795 / $1295 Secondary Data Entry (per copy) $595 / N/A
Options for Installation and Initial Training and Technical Assistance	Software, training, and support can be purchased directly from American Fundware or from a large national network of authorized resellers (local dealers) that can sell and install the system and provide training and technical assistance at negotiated prices.	Software, training, and support are available exclusively from GMS. There are no authorized resellers or installers.	Software, training, and support can be purchased directly from MIP or from a national network of authorized resellers (local dealers) that can sell and install software and provide training and technical assistance at negotiated prices.

Continued on next page

Table 1—*Continued*

Software Title	FundWare	GMS	MIP
Ongoing Training and Technical-Assistance Options	Training classes (per person) in Denver, Colorado: 3 days covering General Ledger, Accounts Payable, and System Manager $895* 2 days covering Payroll or Extended Report Writer $795* Half day on other modules $295* Setup Classes per module (one-on-one, immediately following training) $395* * Each additional person per class receives a 25-percent discount. Training at client's site: 3 days $4500 5 days $6000 Regional Training (per module): Half day $295 1 day $495 Custom Telephone Assistance Setup (per module): 10 hours $395–$795 Training and technical assistance is also available from some resellers at their rates.	Training and support is purchased with the system for the first year. After the first year, the full-service agreement is optional. Annual training and users' meeting held at various locations. Monthly newsletter. GMS staff provides telephone and modem support. On-site training and technical assistance is provided during setup and installation. Additional on-site visits are $350 per day plus expenses.	Video Classroom (per set) $195 Set 1, General Ledger; Set 2, Fund Accounting; Set 3, Payroll. Training classes in Austin 3 days covering Fund Accounting: 1st attendee $495 Each additional attendee $295 1 day (optional) covering Payroll or Fixed Assets $100 Tutorial built into the system. Quarterly newsletter. Network of local dealers to provide on-site technical assistance at dealer's rates.

Continued on next page

Table 1—*Continued*

Software Title	FundWare	GMS	MIP
Enhancements, Maintenance, and Support Contract	Full 800-number telephone support contract is equal to 18 percent of total software retail price. (Includes maintenance and enhancements.) Maintenance and enhancement contract is equal to 12 percent of total software retail price.	Warranty, maintenance, and enhancements (per month) $65-75 If warranty is dropped, telephone assistance is available at $100 per hour. Full-service operating support and accounting technical assistance (per month) $125	Annual software maintenance contract per module (except for below) Single User $60 Network $100 General Ledger, Payroll, and Fixed Assets modules Single User $100 Network $150 800-number telephone support: for each Fund-Accounting System and Network $250 for Payroll and Fixed Assets $100

86

87

Table 2
Head Start Agencies Using Fund-Accounting Systems

Fund-Accounting Systems Used	Agency/Location	
FundWare	Camden County Council on Economic Opportunity	Camden, NJ
	Dallas County Family Services, Inc.	Dallas, TX
	East Coast Migrant Head Start Program	Arlington, VA
	Newark Preschool Council	Newark, NJ
	Redlands Christian Migrant Association	Immokalee, FL
Grants Management Systems	Central Kentucky Community Action Council	Lebanon, KY
	Central Savannah River Area Economic Opportunity Authority	Augusta, GA
	Coastal Georgia Area Community Action Agency	Brunswick, GA
	Community Action Commission	Goleta, CA
	Delaware Opportunities, Inc.	Delhi, NY
	Lift, Inc.	Tupelo, MS
	Maui Economic Opportunity, Inc.	Kahului, HI
	Mercer County Community Action Program	Sharon, PA
	Mid-Williamette Community Action Agency	Salem, OR
	Northwest Kansas Community Action Program	Hiawatha, KS
	Shore Up! Inc.	Salisbury, MD
	Western Carolina Community Action, Inc.	Hendersonville, NC
MIP	Community Action Committee of Victoria	Victoria, TX
	Community Action Organization of Scioto County	Portsmouth, OH
	Community Action Program of Western Indiana	Covington, IN
	Community Services Agency	Carrizo Springs, TX
	Conecuh-Monroe Community Action	Evergreen, AL
	Grant County Community Action Council	Moses Lake, WA
	Huntsville-Madison and Limestone Community Action Agency	Huntsville, AL
	Ironton-Lawrence Community Action Organization	Ironton, OH
	Licking Valley Community Action Program	Flemingsburg, KY
	Mobile Community Action	Prichard, AL
	South Middlesex Opportunity Council	Framingham, MA
	Southeast Nebraska Community Action	Humbolt, NE
	Tom Green Community Action Council	San Angelo, TX
	Tri-County Opportunities Council	Rock Falls, IL
	Tulsa Community Action Agency	Tulsa, OK

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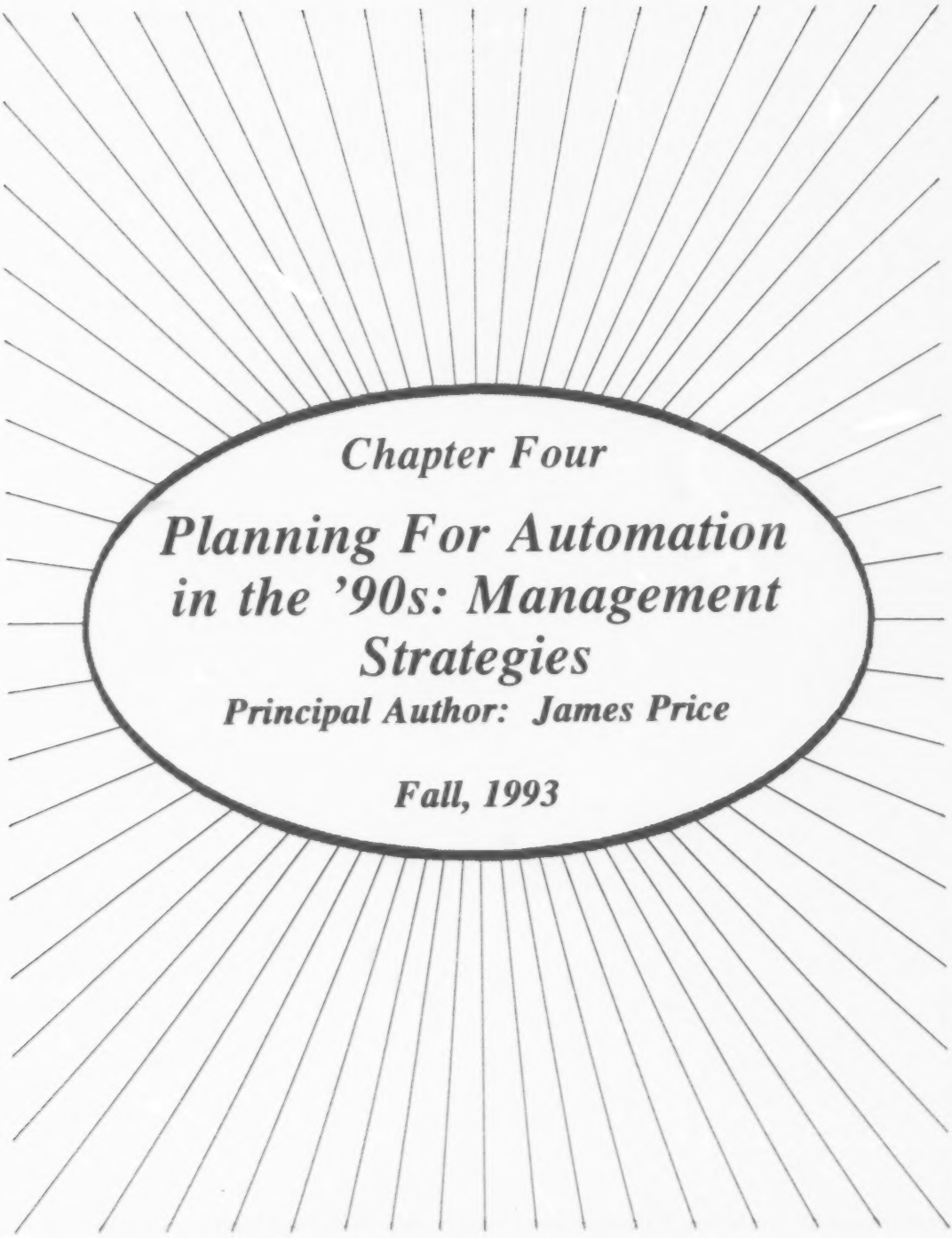


Chapter Four

Planning For Automation in the '90s: Management Strategies

Principal Author: James Price

Fall, 1993

Overview

The following chapters focus on the importance of the commitment of management to automation, strategies and tactics managers can use to plan for automation, and ways to devise an automation strategy for your particular program.

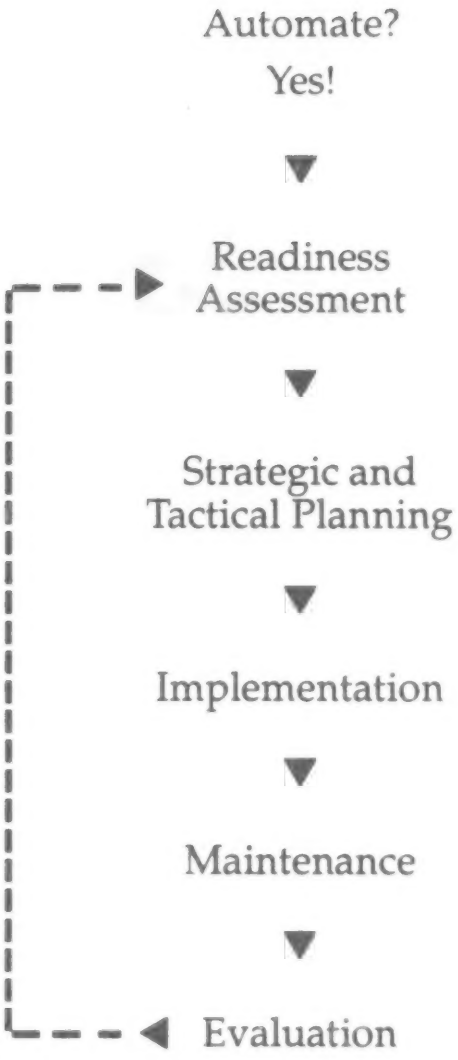
A major goal of this manual is to provide "how-to" guidance for Head Start program planners. This includes planning tools that are useful and practical in obtaining an objective assessment of existing program structures.

The "top-down" concept of planning—an approach that aims to evaluate and address first those issues posing the highest obstacles to the success of the project—is followed throughout. Top-down planning requires that issues belonging to successive steps be considered only after all issues in previous and current steps are adequately addressed. For example, it would be inappropriate to consider issues relating to implementation before all issues relating to strategy and tactics have been addressed (see figure on p. 3).

Planning is discussed in general terms, apart from adoption of any particular technology (computers, software, etc.). Issues that pertain to other stages of the project life-cycle are not addressed.

Although the maintenance and evaluation phases of the automation process are not examined here, Head Start programs should implement these phases, once they have completed the initial phases of the automation process, to ensure that the automation process is meeting the program's needs.

To assist planners with the collection of information, we have included various questionnaires, worksheets, and other aids (exhibits 1–4).



Life Cycle of Automation Project

Managerial Commitment to Automation

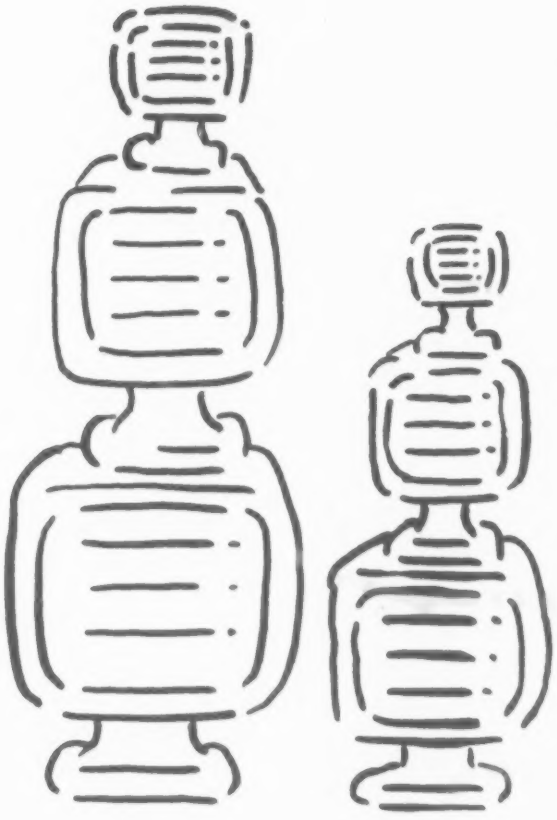
For Head Start management, the decision to automate is likely to be crucial, since it will affect the program internally and externally. Because of the vast differences among Head Start programs, however, the decision to automate cannot be a global one, but must be determined by each Head Start program. Automation may be a realistic choice for one Head Start program, but an unworkable option for another. To decide what is right for your program, you must employ two basic tools of good management: analysis and planning.

If you think automation is right for your program, you must also recognize that automation requires more than just a change in processes; it requires a change in the people who perform them. Acceptance of this change by the people it affects—the employees—cannot be mandated. Attitudes and behaviors are often too ingrained, organizational systems too entrenched, to make change easy. Real commitment and involvement on the part of top management are vital to prepare staff for change and to ensure the success of automation.

The fact that management has decided to proceed with automation does not necessarily indicate real commitment—and employees know it. Many projects falter because managers only pay lip service to an idea without giving it their full attention. Such projects rarely advance beyond the "idea" stage and ultimately die a slow death. Real managerial commitment is exhibited when managers not only "raise the banner" for the project but also "lead the charge."

Head Start personnel associated with the automation project can encourage management by presenting facts on the benefits of automation and by demonstrating the necessary steps to achieve the goal efficiently and effectively. The information in the following chapters may also help you generate managerial support for automation.

Readiness Assessment



Once management is committed to automation and responsibilities for managing the transition have been assigned, it is tempting to immediately begin planning the implementation stage. The development of an implementation plan for automation, however, would be premature at this point. The present status of your Head Start program and its readiness for automation must first be clearly analyzed and defined.

Organizational Issues

A readiness assessment of current Head Start programs and management structures will undoubtedly reveal the existence of some traditional assumptions and practices that limit the effectiveness automation could have for the programs. The managerial assessment tool (exhibit 1) lists various characteristics that may reflect the readiness of programs to accept automation.

Employee Involvement

An assessment should be made to determine how involved employees are in their Head Start program. A high degree of employee involvement should be a strategic objective of program management, since lack of involvement can have a negative effect on the automation effort. Through various means, Head Start management can include employees in the decision-making processes that affect their work situations and the program's operation. These techniques, ranging from low-level participation to high-level participation, require different levels of managerial commitment to be effective. Generally, the more participation a technique demands, the more managerial commitment is required.

Head Start management should be careful, however, to choose an involvement technique that is consistent with the style of the program. If employee involvement in program operations has traditionally been low-level or nonexistent, caution should be exercised in attempting to raise the involvement level.

Some examples of commonly used techniques for encouraging employee involvement that may work for Head Start programs follow, listed according to level of participation:

Low-level participation	High-level participation
• Information sharing	• Quality circles
• Suggestion systems	• Autonomous workgroups
• Gains sharing	• Self-directed teams

When it becomes necessary to increase employee involvement in program operations, Head Start management should proceed first by clearly defining what program objectives will be achieved by such change, and then by providing the means for employees to have input into the process. Depending on the size and complexity of the program, it may be necessary to consult an organizational expert to assist with such changes.

The task of first identifying any operational habits that can become barriers to automation and then making adjustments can be difficult. While the amount of attention that should be given to such operational habits varies, the need for strategic planning makes it imperative that these habits be recognized as forces that may prevent your program from achieving the results normally expected from automation.

Regardless of the amount of attention paid to internal operations, however, the results of each program's self-assessment should be reflected in program-wide statements of mission, policies, strategies, and goals, communicated in a manner designed to unify staff members in a common effort. While Head Start programs have already formulated this kind of mission statement, many may need to clarify basic concepts about the nature of their "business," to provide a focus and framework for strategic planning.

Managerial Involvement

Once managerial commitment to automation has been made, the Head Start director and component coordinator face a difficult question: How will the effort be managed? In some instances, where staff resources are already tight, the answer often is simply, "We'll manage it using existing structures." But further consideration typically raises more difficult questions. Who will build program awareness about automation? Who will seek to build commitment at all levels of the program? Who will explore and analyze the wide variety of improvement techniques available? Who will encourage and develop methods to improve employee involvement? Who will serve as a clearinghouse for information about automation?

These tasks could, of course, be parceled out to various program coordinators or other staff members within the existing program structure. But who, then, will ensure that all of these activities are carried out in a planned, coordinated fashion? The inevitable conclusion is that the magnitude of these tasks requires the participation of management at the highest level.

Even when Head Start directors recognize the need for managerial involvement in preparing the program for change, however, personal involvement on their part is often not possible because of other responsibilities. This problem is frequently resolved by the appointment of a steering committee that is vested with the director's authority and that has responsibility for organizing and leading the program's "change" effort.

Exhibit 1

Assessment of Managerial and Organizational Characteristics

Consider each of the following statements as related to the program's tendencies and its managerial practices. To arrive at a more quantitative assessment, assign numerical values to answers. For example, assign a value from 1 to 2 for every "agree" answer (where 1 is "agree" and 2 is "strongly agree"), and 0 for every "disagree." A total assessment value can then be derived for each area of consideration.

While each Head Start program should decide what assessment values are acceptable, the following are suggested as minimum indications of a program's readiness to benefit from automation (based on the value assignments mentioned above): A minimum value of 12 for managerial characteristics, a minimum value of 10 for organizational characteristics, and a minimum assessed value of 22 overall.

Managerial Characteristics

The Head Start director and component coordinators in my program:	Strongly Agree	Agree	Disagree/ Don't Know
1. Believe that employee participation can further the goals of the program as well as the goals of the individual employees	_____	_____	_____
2. Express respect for employees as valuable contributors to the program	_____	_____	_____
3. Express concern for employees' well-being and job satisfaction	_____	_____	_____
4. Frequently express appreciation for the contributions that employees make	_____	_____	_____
5. Routinely share business information with employees	_____	_____	_____
6. Explain program procedures and policies to employees	_____	_____	_____
7. Are receptive to input from employees to the decision-making process	_____	_____	_____
8. Do a good job coaching and training employees to help them improve their performance	_____	_____	_____
9. Expect employees to use initiative in performing their jobs	_____	_____	_____

Organizational Characteristics

In my program:	Strongly Agree	Agree	Disagree/ Don't Know
1. People can be rewarded and recognized for teamwork accomplishments	_____	_____	_____
2. Measurement data exist to describe important performance results	_____	_____	_____
3. Measurement data are regularly shared with employees to let them know how they are doing	_____	_____	_____
4. Communication methods exist that allow for a two-way flow of information between management and employees		_____	_____
5. Departments cooperate to achieve common goals	_____	_____	_____
6. Personnel policies and practices are based on the assumption that employees want to do a good job	_____	_____	_____
7. Time, money, and other program resources are spent on training and development of employees	_____	_____	_____

Strategic and Tactical Planning

Strategic Planning

Once you have assessed your program's readiness and have the diagnostic data at hand, planning a strategy can begin. Strategic planning is a necessary early step of reviewing the "big picture" regarding your Head Start program: where you are now, where you want to be, and how you will get there. The program should be analyzed in the context of what impact automation may have on it, its people, and its products or services. Strategic planning for automation involves planning for a variety of issues, both internal and external to the program, that will affect the success of automation in your program.

The Nature of Your "Business"—Where You Are Now

The true "business" of your Head Start program must be defined. To do so usually requires input from people at all levels who have extensive knowledge of the program and its relationship to the Head Start community. In some situations, the Head Start director will designate a planning team. If so, the group's members should include parents as well as staff members at all levels and they should reach unanimous agreement on the definition of the program's "business" before further planning is done.

Your mission statement is a good place to start to define the nature of the program's "business" and its current status. The mission statement defines the nature of the "business" in terms of:

- The services provided by the program
- The recipients of those services
- The ways these services are used
- The ways your program differs from other programs

The mission statement, however, falls short of defining the true nature of the program's "business." The true "business" of Head Start programs includes all the items listed in the mission statement (the program's external focus), plus the program's administrative elements and operational procedures (its internal makeup). For planning purposes, the program's true "business" is defined by the following factors:

- Program size (number of sites served, number of children supported, number of employees in the program, number of daily transactions, invoices, etc.)
- Program targets (number of reports generated, checks printed, number of daily transactions, invoices, etc.)
- Employee orientation (position types, technical qualifications, etc.)
- Resources available (special budgets, grants, in-house expertise, Technical Assistance Support Centers, consulting arrangements, etc.)

Your definition of the program's "business" should also be based on an assessment of the program's present capabilities and incapabilities, weaknesses, or inefficiencies in light of the factors listed above. It should also address the program's potential for achieving goals related to its mission and other operational objectives. In contrast to the mission statement, this definition statement should be short and clear.

How Automation Can Help—Where You Want to Be

What is needed at this stage of planning is a general understanding of how the program expects to benefit from automation, in other words, how automation will address the deficiencies already noted. One way the planning group can arrive at common expectations (goals and objectives) for automation is to make four lists to address: (1) what needs to be improved, (2) how automation will affect the way the program now operates, (3) which departments or staff members will be the main beneficiaries of automation, and (4) how automation can both help the program and preserve employee jobs. After compiling these lists, efforts should be made to reduce the issues to short, concise, goal-oriented statements. The following are examples of goal-oriented statements:

- Through automation, we will improve capabilities in both child record management and general program administration.

- Through automation, we will improve operational efficiency.
- Through automation, we will improve delivery of services.
- Through automation, we will develop a more skillful, more professional work force.

Each of the above goal-oriented statements could, of course, be described in further detail to explain what specific areas, systems, or departments will be affected by automation. At this point, however, such details would be inappropriate, since the object of strategic planning is to provide long-range direction—details are the subject of tactical planning.

Direction—How to Get There

To provide long-range direction, management needs to establish policies and procedures in the areas of justification, implementation, acceptance by users, staffing, training, and structure. These policies and procedures then form the basis for the strategic plan that will direct your tactical planning of specific details.

Tactical Planning

Whereas strategic planning deals with the "big picture," tactical planning involves the steps or initiatives to implement strategic directives. One major step of tactical planning involves determining the particular needs of the program and then selecting the best available technology to meet those needs.

Head Start practitioners know a lot about assessing needs and developing plans. They are skilled at updating component plans and reports like Community Needs Assessments. Many have successfully bid on new funding for Head Start or other funded projects. These same skills—identifying needs and planning how to best meet those needs—will be needed to prepare for automation.

Assessing Program Needs for Beginning Computer Applications

If your program has been using computers for less than a year, or if a majority of the staff are not computer literate, consider the following questions carefully.

If your Head Start program is considering the purchase of a computer, these questions must also be considered before making this very important decision. The needs assessment worksheet on p. 11 (exhibit 2) lists a number of issues that need to be examined as well.

- What tasks should be handled by computer?
  - Child Tracking
  - Word processing or producing newsletters (desktop publishing)
  - Maintaining mailing lists
  - Budget preparation and fiscal reporting
  - Communicating with a Bulletin Board System (BBS)
- What changes need to be made in current operations to make the transition to a computerized system?
- How will the software be selected—by a committee of staff members or by the director? Will there be a process for reviewing software and bids?
- Is it better for your program to buy integrated software or to buy each application individually? Will you need to be able to transfer data from one program to another (i.e., from spreadsheet to word processing, or from data management to spreadsheet)?
- Will your office need more than one computer? Should a local area network (LAN) of computers be considered now?
- How many printers and modems should be purchased? What type?
- Where will the equipment be located?
- Who will have access to the computer? Who will oversee the system? Who will contact the vendor when problems arise?
- Is this a good time for the program and staff to undertake a major transition? Be honest. Computerizing your manual systems will require team effort, time, and lots of patience. Can you provide that level of commitment now?

Exhibit 2

Needs Assessment Worksheet

Fill in answers.

Business Activity Needs

Program size:

Number of sites served _____

Number of children supported _____

Number of employees in the program _____

Program services—administrative:

Number of reports generated weekly _____

Number of letters written weekly _____

Number of labels/mailings weekly _____

Number of checks written weekly _____

Program services—child/family demographics:

Number of resources maintained (providers, materials, etc.) _____

Categories of information maintained? (name, address, phone number, etc.) _____

How often does information change? (daily, weekly, monthly) _____

Number of printed reports weekly _____

Check where applicable.

Application Needs

Fiscal services:

Payroll _____

Tax & W-2 report _____

Accounts receivable & Accounts payable _____

Budget management _____

Inventory management _____

Other requirements _____

Application tools:

Word processing _____

Database design _____

Spreadsheet _____

Other requirements _____

Child tracking:

Child screening _____

Child attendance _____

Child enrollment _____

Social services _____

Health services _____

Educational/special services _____

Program services:

Planning & analysis _____

On-line recordkeeping & retrieval _____

Needs Assessment Worksheet, continued

Hardware Needs

Memory (RAM) required for:

Word processing _____

Database design _____

Spreadsheet _____

Fiscal management _____

Child tracking _____

Other software _____

Amount of hard-disk space required for:

Word processing _____

Database design _____

Spreadsheet _____

Fiscal management _____

Child tracking _____

Other software _____

Training Needs

Hardware training:

for _____ staff members

Software training:

for _____ staff members

in fiscal management _____

in child tracking _____

in other software _____

Budget for support:

$

Budget for training:

$

Budget for hardware:

$

Budget for software:

$

Support for	**Sources of Support** *(circle all applicable)*			
Hardware	Vendor	Consultant	Staff	Other
Software				
Fiscal management	Vendor	Consultant	Staff	Other
Child-tracking	Vendor	Consultant	Staff	Other
Other software	Vendor	Consultant	Staff	Other

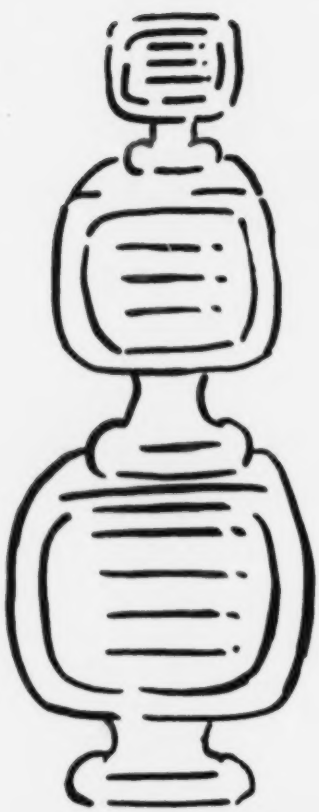
Implementation

Acquisition Planning

Your needs assessment survey provides the framework for deciding what features you need to acquire for your computer system. Therefore, these questions should be considered months before you purchase the equipment.

Keep in mind, too, that the demands on a computer system always grow. Many possibilities won't come to mind until after your system has been installed. As the organization becomes more aware of what the computer system can do, staff members will want it to do more and more for them. Your challenge is to plan for today and tomorrow.

While you are still brainstorming on needs assessment, a useful question to ask everyone is, "Why do we want to automate?" Record the responses so that, as planning continues, the group can refer to these preliminary hopes and expectations and use them to keep focused.



Who Should Be Involved?

Everyone who will be directly affected by the computer system should be involved in planning your computer purchase to an appropriate extent, if only for morale purposes. Employees resist change when they don't understand its purpose and cannot relate it to their own work. By giving no warning and surprising staff members with a computer purchase, you risk an employee attitude of "You bought it—you make it work!" Don't forget that the best ideas often come from staff members who are handling day-to-day operations.

Training and Technical Assistance

One of Head Start's hidden strengths has always been training and technical assistance. Finding the time and resources to improve our own administrative skills, however, especially in the face of other training and technical-assistance needs, has often been delayed. The end result is that many of us are approaching the 21st century wondering how we can master computer technology.

When the Data Management Project began in Region III, the original Project Coordinator, Jim

Matlack, gave this advice to grantees who were trying to identify training and technical-assistance needs: "Remember the caveat that 20 percent of expenditures should be devoted to hardware, 20 percent toward software, and 60 percent toward training (for initial as well as ongoing training plans)."

If you don't plan to make a huge investment in mastering the "learning curve," you may never get your transition to automation off the ground. This investment must include not only the expense of training staff (including workshop fees and travel costs, if necessary), but also the hidden cost of downtime, when staff members are in computer workshops or just struggling to make the computer do what they want. If possible, plan for time for your staff members to simply "play" with the computer, so that they can become comfortable with the new technology.

Once several staff members have achieved a degree of computer proficiency, they will be able to teach the others. This will not spell the end of your training needs, however. Don't forget that computer technology is not a subject you can learn once and put behind you. Just as you must keep up with advancements in your profession, so must you keep up with the continuing developments in computer technology—new hardware, new software applications, and new techniques. Your investment in training and technical assistance needs to be renewed in each year's budget.

Where Can You Get It?

The following lists some providers of training and technical assistance in computer technology and software:

- Vendors of Head Start–specific software—Most developers of software for Head Start are interested in making sure that their customers are satisfied. They may provide training and technical assistance either separately or as part of the purchase price. Some have telephone or modem support.
- Other vendors—Your local computer store may offer organized classes or workshops. If not, sales and technical personnel can give advice and answer basic questions.
- Local schools—Colleges, universities, and vocational/technical schools are almost guaranteed to offer courses in computer technology or applications software. Many have computer labs that give hands-on training.
- User groups—An often overlooked and relatively inexpensive way to exchange ideas and information is a user group. There are user groups for all kinds of computers and popular software systems—even for Head Start software systems!

What Kind Do You Need?

The following lists various options to consider for your training and technical-assistance plan:

- Introduction to personal computers
- MS-DOS and DOS commands
- Operating systems (such as LANs, Windows, OS/2, System 7, etc.)
- Applications software (such as WordPerfect, Lotus, etc.) at the beginning, intermediate, and advanced levels
- Telecommunication and modem transmission techniques
- Bulletin board systems
- Head Start–specific software (on-site or by hotline)
- ADP training workshops, offered at Head Start conferences and meetings
- Hands-on training in a classroom/lab situation
- Computer literature, including library books and magazine subscriptions

Identifying Software Options

Decisions on software acquisition depend basically on three criteria: (1) What tasks need to be computerized? (2) What features are available? and (3) What kind of financial resources does the program have?

While considering what software to buy, ask component staff members about their needs. Find out what tasks are most time-consuming to pinpoint necessary applications. What types of reports could save time, eliminate duplication of effort, or reduce problems for them? Would rosters for each classroom or bus route be helpful? How about emergency information on each child? Reminders about appointments that need to be scheduled or cases that need follow-up? By having employees make a "wish list" of ways their jobs could be made easier to manage, you can discover what applications are most needed.

Armed with your list of the tasks you want computerized, you can start reviewing software packages to find out what features are available. Many software vendors offer "demo" disks that illustrate what the software can do and how it is operated. You may also see software specific to Head Start at national and regional training events. Don't overlook the materials available from the National Data Management Project. We have been reviewing Head Start software since 1985 and have developed a guide listing over 200 criteria of interest to Head Start.

In addition to reading the Head Start–Specific Computer Software Guide and getting a first-hand look at the software and how it works, we also recommend that you carefully interview vendors. You will have a long relationship with the vendor you choose; be sure you have confidence in the vendor's ability and willingness to help you and your staff members use their product.

If your program's financial resources are limited now, you may consider adding components to the computer system once or twice each year to build a complete system. To buy basic hardware and software specific to Head Start, with installation and some training, your minimum investment will probably be around $5,000 (at 1992 prices). Your program must also decide if data-management software (specific to Head Start) should be your highest priority or if a word-processing program or some other application would be more useful at first. You might consider a software system that is sold in modules, allowing you to add to the basic system later, although this is not necessarily the most desirable way to build your system. If your budget is too tight to purchase both software and hardware at the same time, and you know what software you want to purchase, the vendor might be able to work out some way to get you started.

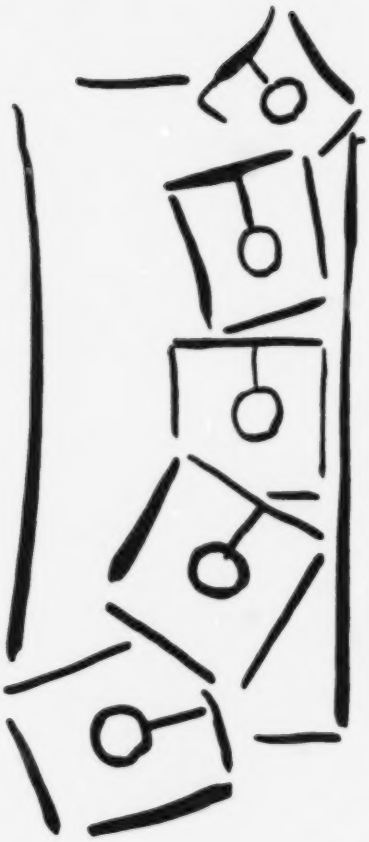
Off-the-shelf software, such as the programs listed in the following chapter, can usually be purchased from a local supplier, or you can contact the manufacturer. If you purchase software locally, ask the dealer for help in choosing among products. Again, always ask to see the software demonstrated.

Whether you are buying software specific to Head Start or off-the-shelf programs, find out the vendor's policy on supplying upgrades or enhancements. When the software is revised or improved, will you automatically be offered a copy of the new version? Will it be free? Will it be optional, or will you be obliged to install the new version in order to continue to get support from the vendor?

The National Data Management Project recommends that you consult your regional office before purchasing hardware or software. Region-specific guidance and policies may exist. You can also obtain information from other Head Start grantees who may be able to provide references, information on user groups, or even cluster training.

103

Applications Software



Applications software refers to software programs designed for a variety of uses or purposes. When computers first came into general office use, the basic applications were word processing and spreadsheets. Gradually, database-management applications were added, then desktop publishing. As the computer grows in importance as an office machine, new applications are being added. Many Head Start offices use all of these computer applications, plus graphics, communications, and accounting.

This chapter is devoted to describing various applications, their benefits, and how Head Start programs might use them.

A list of popular software products that can be purchased off-the-shelf from your local software dealer is provided for each application. We have also provided information to enable you to contact the manufacturer directly, if necessary. These lists are not intended to represent the best or the only products available to Head Start users. You may use other products not mentioned in our lists with great success. If you do, we would like to hear from you so we can recommend that product in the future.

You will notice that many of the following applications are designed "for Windows." Windows is a program that functions as an operating system, managing various applications. For a better understanding of Windows, see *High(er) Technology for Head Start*, also in this binder.

Data Management

What Is Data Management?

The concept of data management is the same as the organization of data in the telephone directory, a Rolodex®, or check register. Data-management software programs allow the user to store and manipulate information on the computer. When entering data in such programs, you type the information and it appears on screen in a form called a record. A record stores information about one particular subject, such as enrollment information.

The range of capabilities of database-management software varies. There are "low-end" programs that will perform simple functions, such as listing names and address, and there are more complex programs that can be programmed to create customized screens and automate data-entry processes.

What Are Its Benefits?

Once data is entered into a database, it can easily be accessed, sorted, and searched. Users can create reports or print labels and lists without having to re-enter data. The data can be sorted several different ways—alphabetically, by ZIP code, by date, by classroom, etc.

For instance, a manually maintained record-keeping system might contain file folders for each child or family with the following information:

- Emergency and enrollment information
- Health and dental records
- Educational assessments and progress notes
- Family Needs Assessment data, volunteer information, etc.

Using a software program, this same information could be stored electronically in the microcomputer, where the data can be manipulated with far greater ease and speed than was possible manually.

Specific Uses for Head Start

There are several data-management systems specific to Head Start that are available. Child tracking, in particular, allows component managers to manipulate all kinds of data quickly and easily.

For instance, a data-management program will enable you to:

- Find out which children need to have medical or dental follow-up scheduled
- Maintain a waiting list of eligible families by location so that vacancies can be filled quickly by the most qualified family within the center's boundaries
- Produce classroom and bus rosters by child's name, parent's name, date of birth, or ZIP code
- Calculate volunteer hours by center, classroom, or program
- Search for the phone number of a parent whose name is different from the child's

Manufacturers of Database-Management Software

dBASE IV, v. 2.0
Borland International, Inc.
1800 Green Hills Road
P.O. Box 660001
Scotts Valley, CA 95067
1-800-331-0877
Price (with education discount): $195
Requirements: DOS 3.3 or higher, 640K RAM

Fox Pro v. 1.02
Fox Software, Inc.
134 W. South Boundry
Perrysburg, OH 43551
800-837-3692 or 419-874-0162
List Price: $795
Requirements: DOS 2.0 or higher, 420K RAM

Paradox, v. 4.5
Borland International, Inc.
1800 Green Hills Road
P.O. Box 660001
Scotts Valley, CA 95067
1-800-841-8180
Price (with education discount): $149.95 (single user), $995 (MultiPak—5 users)
Requirements: DOS 2.0 or higher, 512K RAM

R:BASE, v. 4.5
Microrim
15395 S.E. 30th Place
Bellevue, WA 98007
206-649-9500
List Price: $795
Requirements: DOS 3.1 or higher, 640K RAM

Word Processing

What Is Word Processing?

Essentially, word processing is to typing what the automobile was to the horse and buggy. Anything that was done on a typewriter can be done more efficiently with word processing. In word processing, everything typed is saved in a file so it can be changed without retyping the entire document.

In word-processing software, there are low-end programs and powerful programs, easy programs and not-so easy programs. The qualities you need in a word-processing program depend on what you want to accomplish with it—whether it's a few letters a week, a 40-page proposal three times a year, form letters, or complex documents and publications.

There are three basic criteria which differentiate word-processing software: ease of use, quality of output, and range of features. Complex programs may require a considerable investment in learning time. If your word-processing needs are light or very basic, an easy to learn system might be best for your program. On the other hand, if you will be developing complex documents and proposals, you may prefer a system that can check spelling, create tables of contents and indexes, and update a user-specific dictionary.

What are Its Benefits?

The data entered into word-processing programs can be edited and reused again and again once it is stored on disk. The text-entry and editing features are usually simple. Basic commands allow you to bold or underline text, or to center titles. Print options often allow the user to customize the program and change the font or style of the text. Programs with a thesaurus, spelling checker, and grammar checker, can also help you increase accuracy in the materials you produce.

Specific Uses for Head Start

Anyone who works with words can benefit from word processing. Some obvious uses include all the things you use your typewriter for:

- Updating component plans
- Writing form letters to parents
- Writing progress notes on children
- Preparing proposals
- Setting agendas for meetings
- Writing daily lesson plans
- Producing newsletters

Manufacturers of Word-Processing Software

AmiPro, v. 3.0 (for Windows)
Lotus Development Corporation
55 Cambridge Parkway
Cambridge, MA 02142
800-343-5414 or 617-577-8500
List Price: $119
Requirements: Windows 3.0 or higher; 80 MB hard disk; 2 MB RAM; EGA or VGA monitor

Q & A Write (for Windows)
Symantec
10201 Torre Avenue
Cupertino, CA 95014-2132
800-441-7234
List Price: $69.95
Requirements: 286 processor or PS/2, DOS 3.1 or higher, Windows, hard disk, 2 MB RAM

Microsoft Word
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
800-426-9400
List Price (for Word for Windows v. 6.0): $330
List Price (for MacIntosh Word v. 5.0): $320
Windows 6.0 $330
Requirements (for the IBM PC v. 5.5): DOS 2.11, dual floppy or hard disk drive, 512K RAM
Requirements (for Macintosh v. 4.0): System 3.2, Finder 5.3, two 800K drives or hard disk, 512K enhanced
Requirements (for Word for Windows): 286 processor, Windows 3.0, dual floppy or hard disk drive, 2 MB RAM, EGA monitor

Professional Write 2.2
Software Publishing Corporation
3165 Kifer Road
Santa Clara, CA 95051
408-988-7518
List Price: $249
Requirements: DOS 2.0 or higher, hard disk recommended, 512K RAM

WordPerfect, v 5.1
WordPerfect Corporation
1555 N. Technology Way
Orem, Utah 84057
800-451-5151 or 801-225-5000
List Price: $495
Requirements: DOS 2.0 or higher (DOS 3.0 required for document-locking feature), hard disk, 640K RAM

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Spreadsheets

What is a Spreadsheet?

A spreadsheet is a work sheet that contains a multicolumn analysis of related entries for easy reference. In spreadsheet programs, the intersection of each row and column is called a cell. When data and formulas are entered in the spreadsheet cells, the user can perform various operations such as sorting, calculating, copying, moving, and formatting.

What Are Its Benefits?

Spreadsheet programs combine the operations of the typewriter and the calculator. The spreadsheet, however, can easily be modified without having to re-type data or re-compute formulas. Any cell or group of cells can be formatted to automatically show values with dollar signs, percent signs, or options, so that the symbols need not be entered over and over again.

The format of simple columns and rows is easy to understand and to use. Columns or rows can easily be sorted, copied, or moved with formulas intact.

The spreadsheet can be printed in a variety of formats for financial reports. Some systems allow the user to do "what if" scenarios to determine what values are needed to get a certain result. Many spreadsheet programs also generate graphs, such as pie charts and bar graphs, from data in the spreadsheet.

Specific Uses for Head Start

Directors and component managers in charge of budget and cost allocation may find spreadsheets very useful in:

- Creating and revising budgets
- Creating financial reports and graphs for the Policy Council and Board of Directors
- Obtaining financial forecasts to help make decisions during times of peak cash-flow needs
- Producing several budget scenarios when preparing grant applications for new funding

Manufacturers of Spreadsheet Software

Lotus 1-2-3
Lotus Development Corporation
55 Cambridge Parkway
Cambridge, MA 02142
800-343-5414 or 617-577-8500
List Price (for v. 2.4) Stand Alone: $495;
Network: $450
List Price (for v. 3.4): Stand Alone or Network: $459
Requirements (for v. 2.4): DOS 3 or higher; 5 MB hard disk; 512K RAM; VGA, EGA, or CGA monitor,
Requirements (for v. 3.4): 286 or higher processor, DOS 3.0 or higher, 1 MB (minimum)–3 MB RAM

Excel, v. 3.8 (Windows)
Microsoft Corporation
One Microsoft Way
Redmond, WA 98052
800-426-9400
List Price $495
Requirements (for Windows): 386 or higher processor, Windows 3.1, 8–22 MB hard disk, high-density floppy drive, 1 MB RAM, EGA monitor or better
Requirements (for the Macintosh v. 4.0): MacPlus or higher, System 6.02 or higher, hard disk or super drive, 1800K floppy drive, 2 MB RAM

Quattro Pro, v. 5.0
Borland International
1800 Green Hills Road
P.O. Box 660001
Scotts Valley, CA 95067-0001
800-331-0877 or 408-438-8400
List Price $49.95
Requirements: DOS 5.1, 4 MB hard disk, 640K RAM, 2 MB Extended Memory

SuperCalc v. 5.1
Computer Associates International, Inc.
1240 McKay Drive
San Jose, CA 95131
800-531-5236
List Price: $149
Requirements: DOS 3.0, 512K RAM

Wingz 1.1A
Informix Software, Inc.
16011 College Boulevard
Lenexa, KS 66219
800-331-1763
List Price (for Windows): $499
Requirements (for Windows): Windows 3.0; 2 MB hard disk; 3 MB RAM; math coprocessor; VGA, EGA, or 8514A monitor

Desktop Publishing

What is Desktop Publishing?

Desktop publishing refers to the production of professional-quality documents—ads, brochures, newsletters, etc.—using a computer instead of a typesetter. Text and graphics are combined by the computer program, eliminating the need for manual layout. With the proper hardware and software, trained personnel can create professional-looking documents in a fraction of the time and with a fraction of the expense of old-fashioned typesetting and cut-and-paste layout.

What Are Its Benefits?

Aside from the benefit of saving time and money, desktop publishing offers users the advantage of viewing the product on-screen before printing. The ability to preview the placement of text and graphics helps with decisions about design.

Text is usually imported from a word-processing program, thus saving the time and effort of retyping information. The document can then be easily edited, modified, and reassembled in the desktop-publishing program.

Most desktop-publishing programs support a wide variety of printers, including both dot matrix and laser, and allow you to choose from a variety of type styles and sizes.

For high-quality production, the laser printer is a necessity. (See *High(er) Technology for Head Start* for a discussion of laser printers.) Font software or cartridges are also necessary for a wide choice of font styles and sizes. Some of the major companies that sell this type of product are Hewlett Packard, PostScript, Glyphix, and Bitstream.

Specific Uses for Head Start

The examples we gave for word processing applications also apply to desktop publishing:

- Newsletters
- Flyers
- Announcements of special events
- Graphic displays for proposals

Manufacturers of Desktop Publishing Software

PageMaker
Aldus Corporation
411 First Avenue South
Seattle, WA 98104
800-367-1892 or 206-628-5739
List Price (v. 4.0, for Windows 3.0): $537
List Price (v. 4.2, for the Macintosh): $597
Requires (v. 4.0, for Windows 3.0): 1 MB RAM, 20 MB hard disk
Requires (v. 4.2, for the Macintosh): 2 MB RAM, 30 MB hard disk

Publish It Made Easy
Publish It PC
Timeworks
625 Academy Drive
Northbrook, IL 60062
800-323-7744
List Price (v. 3.0, for the Macintosh): $120
(v. 3.1, for the PC): $100
Requirements (for the Macintosh): Macintosh system v. 4.2, hard disk, 683K RAM
Requirements (for the PC): XT or AT, DOS 3.0 or higher, 640K RAM

Ventura Publisher
Ventura Publisher 4.2
Corel/Ventura
1600 Carling Avenue
Ottawa, Ontario, K128R7
Canada
1-800-772-6735
List Price: $249 + $25 S & H to U.S.
Requirements for PC: 386 or 486 processor, 4–6 MB RAM
Recommended for Windows: Windows 3.1, 14 MB hard disk, compatible EGA Monitor, graphics display, and controller

Manufacturers of Graphics Software

CorelDRAW
Corel/Ventura
1600 Carling Avenue
Ottawa, Ontario K128R7
Canada
1-800-772-6735
List Price: $399 + $25 S & H to U.S.
Requirements: 386 processor, Windows 3.1, 4 MB RAM

DrawPerfect
WordPerfect Corporation
1555 N. Technology Way
Orem, Utah 84057
800-451-5151 or 801-222-5077
List Price $495
Requirements: DOS 2.0, hard disk, 384K RAM

Freelance Graphics v. 4.0
Lotus Development Corporation
55 Cambridge Parkway
Cambridge, MA 02142
800-343-5414
List Price: $495
Requirements: DOS 3.0 or higher, hard disk, 640K RAM (Network version is also available.)

Harvard Graphics v. 3.0
Software Publishing Corporation
3165 Kifer Road
Santa Clara, CA 95051
408-986-8000
List Price: $595
Requirements: 286 processor, DOS 3.0 or higher, hard disk, 640K RAM, EGA or VGA monitor (Also available in Network and Windows versions.)

Communications

What is Communications Software?

Communications software allows two computers to communicate with one another over the telephone line by means of a modem. This process is called telecommunications.

The modem is a device that is either installed within the computer (internal) or connected to the computer by cable (external). The modem receives data from the computer and transmits it through the phone line; the modem on the other end allows the receiving computer to get your communication.

Communications software and compatible modems are needed by both sending and receiving computers to communicate and transfer files.

What Are Its Benefits?

With communications software and a modem, you can send data to and receive data from another computer, enabling you to access bulletin board systems, or access a mainframe computer from a remote site.

Most communications software packages allow you to choose the settings needed for your modem, contact another computer or bulletin board service, send and receive files, and use some automatic error-control features.

Specific Uses for Head Start

If your program has many sites, with each site needing access to central office data, a telecommunications system could help you transfer information to and from sites. It also could enable key staff members to access the office computer from a remote location while traveling, or even from home.

Head Start programs can also use communications software to:

- Contact the National Head Start–BBS and maintain up-to-the-minute communications with their Technical Assistance Support Center, regional office, or other organizations
- Communicate with information services, such as the Maternal and Child Health Network and the Human Services InterNet Project
- Transmit the Program Information Report (PIR) and grant applications (PCCOST) electronically

Manufacturers of Communications Software

Carbon Copy Plus v. 6.0 (for the PC)
Carbon Copy for the Mac
55 Federal Road
Still River Corporate Center
Danbury, CT 06810
617-551-1414
List Price (for the PC): $199
List Price (for the Macintosh): $99 (single user), $299 (unlimited users)
Requirements (for the PC): DOS 2.0 or higher; 60K RAM Host/170K RAM Guest (Can be used on LAN or Windows.)
Requirements (for the Macintosh): MacPlus or higher, System 6.0.4 or higher, 1.44 MB floppy drive or hard disk, 1 MB RAM

Procomm Plus v.2.0
Data Storm Technologies
P.O. Box 1471
Columbia, MO 65205
314-443-3282
List Price: $119
Requirements: PC or PS/2, DOS 2.0 or higher, 192K RAM

Customized Software

Over the last decade, many Head Start programs have chosen to buy customized software rather than commercially available off-the-shelf packages. Choosing this option makes sense, because the nature of our needs often dictates a custom-designed program.

Purchasing customized software is not without pitfalls, however. Some may not be discovered until much later—often when the programmer is no longer available to support the package. When this is accompanied by changes in Head Start program personnel, you may find yourself without staff members who understand the software.

Below are eight stipulations developed by Vince Harding of Master Guide Information Services[1] that should be present in your standard agreement contract with the vendor. If they are not present, be sure to have them added before you sign. The contract should include:

- A reduced price and/or additional support (without extra charge) if your agency is among the first users of a package
- A specific guaranteed time period for the correction of errors in the software after its installation (The guaranteed response time to make such corrections and the methods by which the vendor will correct the errors should also be defined.)
- Penalties in the event that the vendor fails to complete installation of the software on time
- Written specifications for any modifications that the vendor has agreed to make in the software
- A statement of the vendor's liability for loss of information due to errors in the software during the period of the guarantee
- Details of the installation, support, training, and maintenance promised by the vendor—along with any applicable costs for such services
- An agreement that payment for the package is contingent upon its performance according to agreed-upon specifications
- The form in which the software and subsequent updates will be delivered

[1]The eight stipulations were taken from *Master Guides' Computers/Word Processing for Non-Profits Roundtable Manual*. c 1983, 1985 Vince Harding & Associates. Used with permission.

Computer Hardware

Most Head Start managers have heard the adage, "First select the software; the hardware decision will be dictated by the applications needed." This still holds true in the '90s for your first purchase of a computer system. However, today many computer hardware purchases are made to expand already existing systems.

To offer advice to both first-time computer shoppers and those looking to expand existing systems, we offer four general principles to guide your purchase decision.

- First, remember that memory is power; you can never buy too much RAM. Today, the absolute minimum is 640K, but 1 or 2 MB would be preferred. Many new machines offer 4 or 5 MB of RAM—an indicator that new applications software coming on the market will probably require more memory.

- The second principle concerns the microprocessing chip. Today the least powerful chip suitable for most Head Start needs is the 80386, also known as a 386 model computer. The 80286 (286) may still run your software, but it performs much more slowly than the 80386 chip, which is installed in the 386 SX or DX model computers. Soon, you will probably be told to buy nothing less powerful than a 486 model computer.

- Buying sufficient hard disk space is the next rule. Today's software applications demand more hard disk space. If you are buying a first computer now, 60 MB of hard disk memory should be the minimum; 40 MB would suffice only if your Head Start program is very small and your computer applications minimal.

- Last, but not least, is the same rule that has been preached over the last ten years: Be sure to allow plenty of room for expansion. What does that mean? Soon after you have installed your new system, you may realize you need disk drives for both 3.5" and 5.25" floppies, as well as a fax board, a modem, and several other peripherals that need to be connected to the computer. Expansion slots on the back of the computer permit the addition of these extra items.

Your needs assessment survey should also include questions that help to determine the availability of

skilled staff members who can use the computer. Who is expected to use the computer? What is the level of computer expertise among your staff members? These are crucial questions to be answered during needs assessment. If the computer expertise of your staff members is insufficient to support the computer systems when they arrive, it will be necessary to plan for other support options or to include staff training in the budget. Management needs to know how much staff training will be required, and how to help staff members overcome the natural tendency to resist the introduction of new technology.

How to Get Competitive Prices on Computer Hardware

The model proposal in exhibit 4 provides a standard for you to compare costs and system features from different vendors. In using this model, however, you should remember that it is important to shop around, not just for the best buy for your money, but also for a well-established and respected vendor. Your relationship with your computer vendor is very important. You want to make sure the vendor will be there for help and support after the sale.

The Proposal Cover Sheet and Computer Hardware Proposal (exhibit 4) as shown on the following pages were taken from "How to Request and Evaluate Computer Hardware Proposals," presented by Thomas McMurrain, president of Micro Management Systems, Inc., and developer of ChildPlus Head Start Management Software. Originally, there were three configurations suggested by Dr. McMurrain, the third configuration being "adequate" with a 40 MB hard disk and 640K RAM. However, with the rapid expansion of memory requirements and the continual drop in hardware prices, the National Data Management Project suggests that Head Start programs intending to make a hardware purchase in 1994 consider a configuration similar to the "upscale" configuration as shown in the exhibit. Memory and disk space are cheaper today than ever before. Buy for the future.

The hardware and related items listed here are considered basic items; however, we recommend that you consult with your regional office before making a hardware purchase—there may be region-specific recommendations or purchase options. Considerations such as price, expandability, and versatility should also be weighed when considering a hardware purchase. There are other hardware configurations that can meet the needs of Head Start programs.

IBM Educational Allowance

IBM Corporation offers an "Educational Allowance" for accredited schools. The educational allowance entitles accredited schools to a 40 percent discount off the list price on all IBM computers, most printers, and other peripherals.

Head Start is considered to be an accredited school because of the national Head Start Peer Review process. In many cases, however, the grantee agency administering Head Start does not qualify as an accredited school. To make sure your agency can receive the discount, be sure to include Head Start as the name of the program requesting the discount in all correspondence.

To receive the 40 percent discount, follow these steps:

1. Contact a sales representative at your branch office of IBM. IBM has branch offices in nearly all major cities—most with an 800 number. Just call the local or 800 number in your phone directory and ask for a sales representative.
2. Indicate to the sales representative that you are with a Head Start program and are eligible for an Educational Allowance.
3. Your IBM branch should be able to explain the procedures you need to follow. You will probably have to complete a form certifying that you are acting on behalf of a qualified Head Start Agency.
4. You will either purchase your computer directly from your local IBM branch office or from a local IBM dealer. You can check with local IBM dealers listed in the phone book. Sometimes dealers such as Computerland are able to get the Educational Allowance for you.

A suggested IBM configuration for single use, central office operation for Head Start programs with up to 600 children is:

IBM PS/2 Model 55sx (or compatible 386 machine)
60 MB hard disk
DOS
VGA color monitor
Wide-carriage Pro Printer
2400-baud modem (internal or external)
1-year warranty on all equipment

Exhibit 3

Guidelines for Deciding on a Computer Purchase

I. Perform a needs assessment (see p. 11).
   A. List the functions you want a computer system to do for you.
   B. List the activities that are top priority and not to be compromised.
   C. List possible future applications.

II. Become computer literate.
   A. Build confidence in dealing with vendors.
   B. Learn to ask the right question to get to the right answer.
   C. Increase your understanding of features desired.

III. Shop for vendors, both hardware and software.
   A. Make price and performance comparisons.
   B. Research the types of training, installation, and after-sale support that is available.
   C. Find out if the vendor offers loaners if the system is temporarily out of order.
   D. Find out if there is a warranty on the equipment.
   E. Find out what types of backup are available.
   F. Find out exactly what is included in the base price and what costs extra.
   G. Find out if the vendor offers a maintenance-service contract, and if so, the price.
   H. Find out how long it usually takes to get equipment repaired.
   I. Find out if the written agreement for specific packages includes:
      1. Warranties or guarantees to correct bugs or defects,
      2. Protection (returns or refunds) against nonperformance,
      3. Protection (discounts or rebates) against late delivery,
      4. Required modifications covered under the agreement and the time-frame for such modifications,
      5. Restrictions or proprietary rights on use of the package,
      6. Specifications on installation, support, training, and ongoing maintenance,
      7. Documentation and user support,
      8. Terms of payment.

IV. Assure long-term expandability.
   A. Find out how easy it will be to upgrade if you outgrow the system.
   B. Find out how much memory you can get for your money.
   C. Find out if the software can be customized and updated.
   D. Protect your investment against rapidly changing technology.

V. Evaluate Software Packages.
   A. Be aware of the full range of software programs available.
   B. Read reviews in computer publications; interview users.
   C. Find out if the program performs each of the required functions you have identified.
   D. Find out if the program allows you to add customized features.
   E. See a demonstration of the software by someone who is familiar with the full range of features.
   F. Ask the vendor for references, then talk to them.

Exhibit 4

Computer Hardware Proposal

PURCHASER'S NAME _____
ADDRESS _____
CITY _____ **STATE** _____ **ZIP** _____
CONTACT PERSON _____
PHONE _____
PROPOSAL DUE DATE: _____

Please use this format to help us standardize our evaluation of your proposal. Feel free to attach any comments or additional information that will help describe or explain your offer.

VENDOR NAME _____
ADDRESS _____
CITY _____ **STATE** _____ **ZIP** _____
CONTACT PERSON _____
PHONE _____
PROPOSAL SUBMITTED DATE: _____

How long has your business been selling computers? _____
Give the name and phone number of two references we can contact:

_____

_____

SUMMARY OF COSTS

Summarize costs indicated on the attached forms. VENDOR should summarize costs if PURCHASER is not given options from which to choose. If PURCHASER is to select options from your proposal, PURCHASER should complete this summary after options have been selected.

COMPUTER & DOS ..... $ _____
PRINTER ..... $ _____
MODEM ..... $ _____
MISCELLANEOUS ..... $ _____

TOTAL CONFIGURATION COST ..... $ _____

What tax should be applied to the above costs? _____ %
What is the last date on which this proposal is valid? _____

Computer Hardware Proposal, continued

Please itemize your proposal on this worksheet. Attach additional information to support your bid if you think it will be helpful.

Vendor's name: _____

Computer Brand & Model: _____

Quantity Proposed: _____ Base Price: _____

Describe the base computer below. Indicate if purchaser is to choose options and indicate the ADDED COST for options beyond the base item.

Hard Disk (Storage):
Base: Size _____ MB; Speed _____ MHz
Option: Size _____ MB; Speed _____ MHz Add $ _____

RAM (Internal Memory):
Base: Size _____ KB/MB
Option: Size _____ KB/MB Add $ _____

Monitor\Video Board:
Base: Mono _____ Color _____ CGA _____ EGA _____ VGA _____
Option: Mono _____ Color _____ CGA _____ EGA _____ VGA _____
Add $ _____

Communication Ports:
Base: How Many? Serial _____ Parallel _____
Option: How Many? Serial _____ Parallel _____ Add $ _____

Diskette Drive(s)
Base: Size _____ inches; Capacity _____ KB/MB
Option: Size _____ inches; Capacity _____ KB/MB Add $ _____

Expansion Slots:
Base: How Many? 8 bit _____; 16 bit _____
Option: How Many? 8 bit _____; 16 bit _____ Add $ _____

Describe the following items included in the Base Price:
CPU Clock Speed: _____ MHz
Keyboard Type: _____
DOS version: _____

ADDITIONAL FEATURES/COMMENTS/CHARGES

TOTAL COMPUTER COST with selected options $ _____
(Include only items on this page.)

Computer Hardware Proposal, continued

(Upscale—Best Performance)

Bids are requested for the following computer-hardware and related items (prices should be itemized):

1 Microcomputer: 80386 CPU ("AT compatible")
  60-megabyte (or larger) hard disk, 24 Mhz or faster
  25 MHz CPU speed or faster
  VGA monitor and color board
  1 serial port
  1 parallel printer port
  1 floppy disk drive (5.25" or 3.5")
  1 megabyte RAM

1 Modem: 100% Hayes Compatible
  2400 Baud
  Internal (installed)

1 *Printer: 24-pin Dot Matrix (good performance, less expensive)
  Dual quality (Draft/Near Letter Quality
  260 CPS or faster Draft)
  Epson/IBM compatibility (Specific brands not required)
  14" carriage (132 column capacity)

1 *Printer: Laser Printer (great performance, more expensive)
  Hewlett-Packard LaserJet Series III or compatible

1 DOS: 3.3 or higher
1 Diskettes: box of ten

All appropriate cables, connectors and boards. Delivery, installation and testing at our office site.

Four hours computer operation training for a group of three staff members. Training should include:

- Procedure for turning computer and printer on/off
- Loading and using the printer
- Basic DOS commands: (BACKUP, Change Directory, COPY, DIR, ERASE, FORMAT (floppy disks), Make Directory, Print Screen, RESTORE, etc.)

Note: Please describe the warranty and extended support options for the system you have proposed.

(Midrange—Very Good Performance)

Bids are requested for the following computer-hardware and related items (prices should be itemized):

1 Microcomputer: 80386SX CPU ("AT compatible")
  60-megabyte (or larger) hard disk, 28 MHz or faster
  16 MHz CPU speed or faster
  * Monochrome monitor and board (least expensive); or
  * VGA monitor and color board (better, more expensive)
  1 serial port
  1 parallel printer port
  1 floppy disk drive, 1.2 MB minimum (5.25" or 3.5")
  640KB RAM

1 Modem: 100% Hayes Compatible
  2400 Baud
  Internal (installed)

1 *Printer: 24-pin Dot Matrix (good performance, less expensive); or
  Dual quality (Draft/Near Letter Quality
  180 CPS or faster Draft)
  Epson/IBM compatibility (Specific brands not required)
  14" carriage (132 column capacity)

1 *Printer: Laser Printer (great performance, more expensive)
  Hewlett-Packard LaserJet Series III or compatible

1 DOS: 3.3 or higher
1 Diskettes: Box of ten

All appropriate cables, connectors and boards. Delivery, installation and testing at our office site.

Four hours computer operation training for a group of three staff members. Training should include:

- Procedure for turning computer and printer on/off
- Loading and using the printer
- Basic DOS commands: (BACKUP, Change Directory, COPY, DIR, ERASE, FORMAT (floppy disks), Make Directory, Print Screen, RESTORE, etc.)

Note: Please describe the warranty and extended support options for the system you have proposed.

---

* *Choose one of the two starred printer options.*

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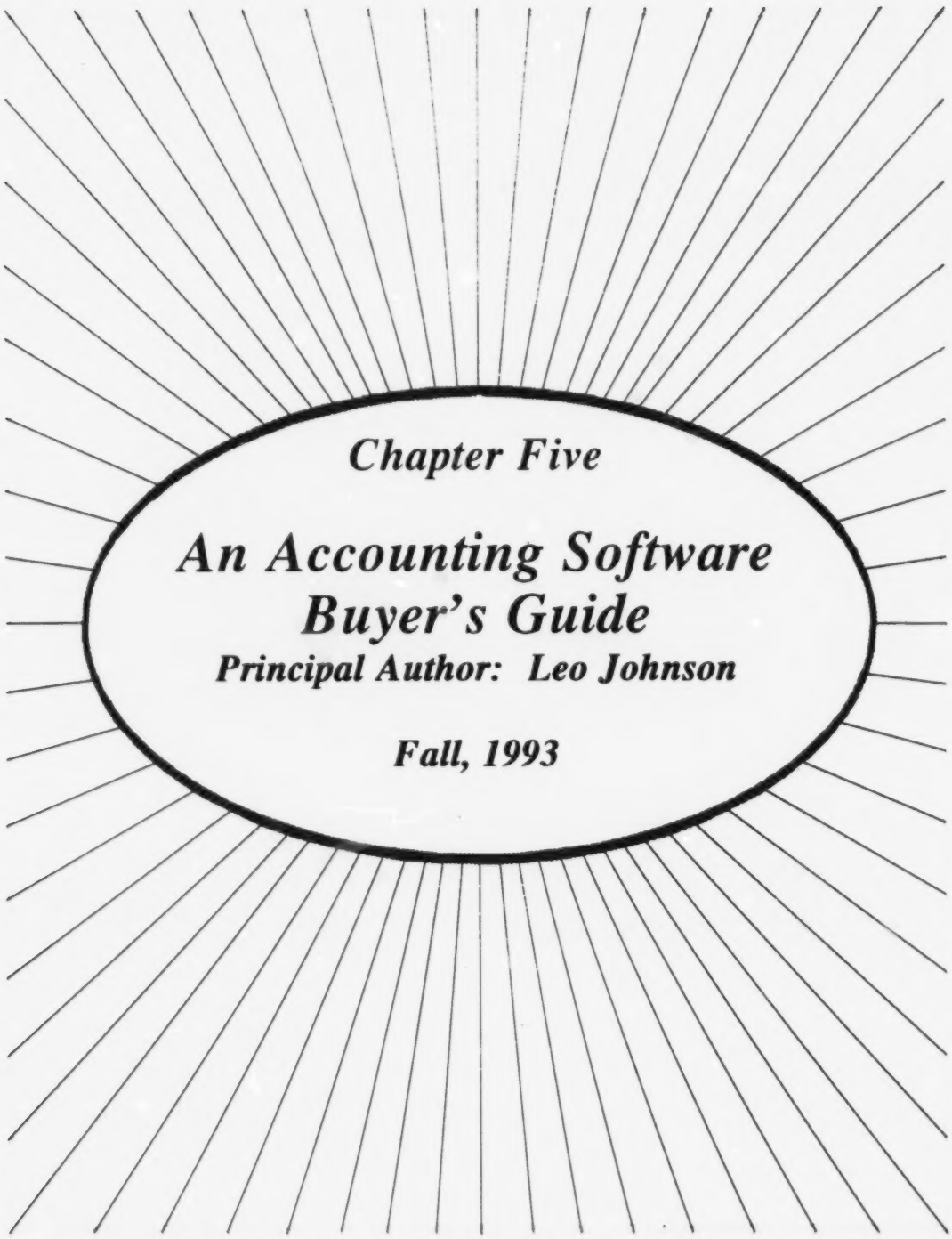


Chapter Five

An Accounting Software Buyer's Guide

Principal Author: Leo Johnson

Fall, 1993

Financial Management System

Management Information System

A Management Information System as it relates to Head Start is a system that makes use of the policy council, the board of directors, regional and federal officers to provide Head Start directors with pertinent information. This information allows directors to make timely and effective decisions in planning, directing, and controlling the activities for which they are responsible. The above definition emphasizes the use of information and not the means of processing that information.

Budgeting

Budgeting may be described as the process of allocating scarce resources to unlimited demands. Simply stated, a budget is a dollars and cents plan of operation for a specific period. As a minimum, the plan should contain information about types of accounts and proposed expenditures. The budget should also include purposes for expenditures, and the proposed means of financing them. The budget for any year goes through five phases (1) preparation (2) policy council and regional office approval (3) administration (4) reporting and (5) postaudit.

Accounting

Accrual basis -- the basis of accounting under which revenues are recorded when earned and expenditures are recorded as soon as they result in liabilities for benefits received, notwithstanding that the receipt of the revenue or the payment of the expenditure may take place, in whole or in part, in another accounting period.

Accounting on a cash basis means recording revenues and expenditures in accordance with cash collected or disbursed.

Accounting on encumbrances basis means that obligations are in the form of purchase orders, contracts, or salary commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved. They cease to be encumbrances when paid or when the actual liability is set up.

Cost Accounting provides for assembling and recording of all cost incurred in completing a task or specific job.

Fund Accounting is the type of accounting used by governments and nonprofit institutions. Financial activity involves accounts that are distinct funds. Each fund contains a separate self-balancing set of accounts used to record financial activity.

Financial Reporting

Financial reports fall into three broad classifications:

1. Reports produced at fairly lengthy intervals, in many cases long after the transactions involved took place. They provide passive background information. Accounting examples are asset records and depreciation summaries.

2. Reports which provide control information to influence and guide current short tactical and operating decisions. Accounting examples are cost variance reports and working capital statements.

3. Reports which provide statistical data for forecasting, planning and longer term strategic decisions. An accounting example is budget models.

Auditing

Auditing serves the purpose of verifying management's representation as to its financial statements, internal control, and compliance with laws, regulations and contractual agreements.

A financial management system's value comes from actions which reduce cost, use resources effectively or increase the present or future operational efficiency of the organization. The question that Head Start directors must continually ask is, will the increased amount of information, and the more timely information lead to effective actions.

It would be less than candid not to admit that considerable difficulties can occur in trying to introduce a new computer-based financial management system . However, some Head Start programs in introducing a FMS have achieved some success. In attempting to introduce a FMS, it is important to create and maintain management interest. The enthusiastic support of management at all levels is necessary to ensure that the FMS will be effective and develop with the program. The active participation of management in the planning, design and implementation of a FMS is necessary to avoid a "them and us" situation developing.

In implementing a computer based financial management system the selection of accounting software becomes a crucial decision if the software is to assist in effective planning, controlling and decision making. The selection of software is one that can significantly help or hinder a program's ability to automate its fiscal operations.

This chapter is an introduction and guide for potential users of accounting software. It explains how accounting software can assist in automating fiscal operations and the cost of automating. It explains how to get past three obstacles that could hinder the automating process.

The first obstacle is the decision whether your program will benefit from computerizing. This chapter offers a cost/benefit analysis, as well as a discussion of potential benefits, limitations, and cost.

The second obstacle is the selection of the right system from the hundreds available. This chapter offers a series of criteria lists that will help you analyze your needs and evaluate accounting software. There is also discussion of what to look for and to look out for.

Your third obstacle is the setup and use of your computer based accounting system. This chapter offers a set of checklists for converting accounting systems and a section on standard operating procedures appropriate for computerized systems. This chapter also includes lists of accounting software companies, microcomputer magazines, and an accounting matrix that compares eight accounting packages. There are copies of forms and checklists to use and a glossary of accounting terms.

Account Modules

Micro-accounting is keeping your program's books on a microcomputer system, as opposed to using a system of paper journals and ledgers. Numerous microcomputer accounting systems are being sold today as off-the shelf software packages. The software packages are divided into mix and match modules, so you can select just those accounting functions that are appropriate to your needs. The standard modules used by Head Start programs are the general ledger, accounts payable, and payroll. Inventory modules are also available. However, this chapter is limited to the above standard three modules because inventory is a complex subject and requires a chapter of its own.

The General Ledger Module

The general ledger module is the basis of the whole accounting system. All the financial transactions of your program end up in the general ledger. The sources of the transactions include purchases from vendors, paychecks to employees, and various accounting adjustments (such as for depreciation and amortization). These different types of transactions are recorded into their respective journals, and summary totals from the journals are periodically posted to the general ledger. When all journals have been posted to the general ledger, it becomes a historical record of all financial activity of your program. At this point, reports are generated, further summarizing and grouping the information as appropriate for management decisions on the program.

The following reports are usually provided by general ledger module: the chart of accounts, a listing of the journals, the trial balance worksheet, the general ledger, and the balance sheet. The higher-performance accounting systems provide flexibility in formatting the layout of the financial statements and the generation of additional management reports.

The Accounts Payable Module

The accounts payable module handles your purchases from vendors supplying goods and services to your program. It usually prints checks to vendors. It will help you to not pay too soon, yet to receive the desirable discounts. It will ease recurring payments and the accounting for them. You will not be able to double pay a bill. You will be able to see what you owe at any time, so you can make informed purchasing decisions.

This module will maintain a vendor list with such information as addresses, contracts, telephone numbers, and your salesperson. The special reports available here include cash requirements report, an aged payables report, vendor ledgers, and possibly a future payment due report. Mailing labels are usually printed, and some programs compute commissions paid.

The Payroll Module

The payroll module prints the paychecks for your employees, withholding the many different amounts required by various government agencies, employee benefits plans, and so on. An employee list is maintained, and there are reports on what has been paid and on all of the various withholdings.

While it sounds simple, it is the area least suited for an in-house computer. It is an area with frequent changes, both from employee turnover and status changes and from the periodic changes in the many tax withholdings tables involved. It is a sensitive area on two sides: reports to the IRS and the expectations of the employees. Mistakes to either are not taken lightly.

You can usually run these different modules either individually or as an integrated system. The general ledger can automatically post figures from the other modules, treating each module as an additional individual journal. Usually these are period-to-date summary figures for each account, but some systems allow you the option of transferring all of the transaction details from the sub-module into the general ledger. Some of the systems allow you to set up several accounts payable control accounts in your general ledger.

Micro Accounting System

Benefits of a Micro-Computing System

The basic purpose of your accounting system is to accurately record all your financial transactions and report on that data in a useful way. A computer allows you to record more data in greater detail than a manual system . The advantage of the computerized system is that the organization can be much more complex and detailed without adding to the work load of the user. The computer allows you to set up a system to keep detailed records, but have the normal reports be simple and concise.

Your system will be highly structure because a computer requires consistency and accurate input. Each transaction will be entered the same way. The computer will also tell you when your books are about to become out-of-balance, and some will refuse to allow you to continue until you correct that situation. This is an important option because it forces the operator to find the error at the point where it is easiest to find. Another powerful function of a computerized system is the automatic printing of your reports, checks, invoices, and statements which increases your accuracy and efficiency many times over.

One of the most prized aspects of a computerized system is the timeliness of reports. If the data is inputted regularly, then up-to-date information about your program's financial status is available at any time. Even the end-of-period processing is shortened; the completed reports can be ready in days instead of weeks.

What are the limitations

Capacity

The clearest limitation of a microcomputer system is capacity. Systems can become overloaded. Adding equipment escalates your cost very rapidly.

Program Design Parameters

Another set of limitations are the constraints designed in the programs. These limitations must be avoided satisfactorily during the selection of the system, because they cannot be changed.

Reliability

Because computers cost more and are used for much more important functions, their reliability is an issue. How long can you go without the computer up and running?

Security

Security is another area where computers are weak. Security is divided into three areas: system security, data security, and accounting security.

System security is concerned with preventing unauthorized use of the computerized accounting system.

Data security is concerned with the fragility of accounting data. An electrical surge, and a crash of a hard disk are just two examples of how your program's data can be destroyed. There are preventive measures to deal with the above problems, but they must be listed some one of the computer's weak points.

Accounting security has to do with audit trails of documents that link the system input to the final figures reported by the system

Selection

Another weak point in microcomputer accounting systems is the difficulty of selecting one that is right for you. There are somewhere between 150 and 300 accounting software packages on the market, and new ones are appearing every week. The difficulty of evaluating even a single system, relative to your needs, is overwhelming.

Setup

The final problem about accounting systems is initial setup. The easiest ones are those in which everything is already fixed. The best systems are extremely flexible, so that they can be adjusted to fit your requirements. But that means the setup requires more decisions, often requiring both accounting and computer expertise.

What Are the Costs

The obvious costs of a computerized accounting system are the costs of the computer hardware and software equipment and programs. However, there are some hidden costs.

Research and Selection

The effort you and your staff or a consultant puts in the selection process can be a large cost. This includes the analysis of your current system and the definition of your needs, followed by the analysis of the prospective systems. Selecting the software is much more difficult than selecting the hardware.

People and Space

There are some costs involved in preparing space, furniture, and staff transition.

Supplies and Forms

You will need to acquire computer supplies necessary for the operation of the computer.

The Conversion

Then there is the conversion process itself, involving preparing and gathering the data, setting up the chart of accounts, designing the various reports, and keying in all of the initial data. This generally takes weeks.

Maintenance

The maintenance of your computer equipment can be handled as a per-hour repair charge or by a service contract basis.

Hardware and Software

The cost of computer hardware depends on the brand , system size, and on what types of accessories you buy. The accounting systems require only basic computer components: the processing unit and storage, input keyboard, display screen, and a printer.

Your storage needs are determined by your current volumes of accounting transactions, your growth projections and other programs you will be running on your PC. Often programs project that they will eventually install a Lan.

In selecting the software you will just have to look for one that is strong in the areas that you need.

Is a Micro for you?

We recommend you approach the question of computerizing in two parts. First, determine if your accounting system will benefit from a computer. Then, you have to determine which computer system best fits your needs and whether you can afford it.

To determine if a micro-accounting system can benefit your program use the cost/benefit analysis forms below.

COST/BENEFIT ANALYSIS (ACCOUNTING ONLY)
BENEFITS--IF CONVERTING FROM MANUAL TO MICRO

	Estimated Cost
1. **Overall**:	
a. Growth handled smoothly	_____
b. Reports available on a more timely basis	_____
c. No more arithmetic mistakes	_____
d. Furniture	_____
2. General Ledger:	
a. Reduce the general ledger labor requirement:	
_____ hrs/mo x _____ $/hr x 12 mo x 50% =	_____
b. Better control of your Head Start program:	
-- tailored reports-you can target data	_____
-- summary status of business always available	_____
-- details of accounts always available	_____
-- period closing and financial statements available above within a week or two	_____
-- aids in keeping books in balance	_____
3. Accounts Payable:	
a. Reduce accounts payable labor requirements	
_____ hrs/mo x _____ $/hr x 12 mo x 50% =	_____
b. Better cash flow management	
-- see what you owe and when it is due	_____
-- track the value of discounts lost	_____
-- see where you stand with each vendor	_____
-- be able to monitor each bill separately	_____
4. Payroll:	
_____ hrs/mo x _____ $/hr x 12 mo x 50% =	_____
5. Total Annual Benefit	_____

COST/BENEFIT ANALYSIS (ACCOUNTING ONLY)
COST

Item	Estimated Cost
1. One-time costs:	
a. Computer(s)	
b. Printer(s)	
c. Software	
d. Furniture	
e. Computer system training	
f. Consulting --selection	
--accounting installation	
Subtotal .	
2. Divide by three to get annualized cost, assuming a three-year life for the system.	
3. Annual costs	
a. Supplies	
b. Maintenance	
c. Insurance	
4. Subtotal (2+3)	

5. If bringing accounting in-house from an outside service, add these additional costs (just for the relevant accounting functions). First, there are additional labor requirements. Enter an estimate of the number of labor-hours it would take per month to manually do that part of your books. Then enter the average cost per hour of your bookkeeping staff.

General ledger: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

Accounts Payable: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

Payroll: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

There will also be some additional training requested. Figure about one month's staff cost per module (just use the hrs/mo and $/hr figures from above).

General ledger: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

Accounts Payable: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

Payroll: _____ hrs/mo x _____ $/hr x 12 mo x 50% = _____

6. Divide by three to get annualized cost, assuming a three-year life for the system. _____

7. Total annual cost (lines 2, 4 and 6 if applicable) _____

The formulas used were developed by the Association of Computer Users (ACU) for the purposes of rough cost/benefit analysis of multipurpose microcomputers.

The one-time costs, such as purchasing the system, installation, and training, must be annualized so you can compare annual costs to annual benefits. You should assign an annual value to each of those intangibles that apply to your planned system. If the total benefits of computerizing are more than 15 percent greater than the total cost, this is a clear indication to computerize.

The Selection Process

You will need to determine your accounting needs fairly precisely in order to select a good accounting software package for your situation. Your lists should differentiate between minimum requirements and things you would like to see.

Be sure to involve the accountant in this project to help with both the determination of your needs and the setup of your system. Also talk to other Head Start programs to see how they accomplished their ends.

Study a few system guide books or microcomputer magazines. Make sure you see at least three stores or dealers before making any decisions. Insist on demonstrations, using some of your own accounting data that you have brought with you. Ask for previous Head Start customers using the same hardware and software recommended to you. Finally, get all of those promises of capabilities and after-sale support in writing.
Note that this process will probably take you several months for the study, research, shopping, and demonstrations. With a consultant, it can take just a few hours or days.

What to Look for (and Look out for) in accounting software

When shopping for accounting software, there are five areas to focus on: the general ledger, the support, the ease of use, the reports and the security.

General Ledger
- Flexible Chart of accounts
- Flexible Report formats for Financial Statements

Documentation
- Easy-to follow Instructions
- Tutorial
- Sample Reports

Ease of Use
- System Setup
- Daily Operations Flow Smoothly

Reports
- Clear, Easy to Read

Security
- Good Audit Trails
- Passwords

The general ledger is the basis on which the whole accounting system is established. All of your financial transactions will end up in the general ledger and your financial statement will be prepared from it. To make the transition easier and the results acceptable, you want to be sure that the computerized general ledger is consistent with your current accounting practices. Some other important features you might desire in the general ledger are budgets, departments, recurring monthly journal entries, reversing entries and bank reconciliations.

Support

Look for a manual that talks to you in English. Also check out the index
Look at the tutorials offered for the system. A tutorial is a set of step-by-step lessons that walk a new user through the program. A good one takes you through setting up new accounts, recording several types of transactions, posting those transactions, making backup copies of data, printing reports, and closing the accounting period. It also helps immensely if there is a tutorial to take you through the setup of mini-company, going through the same steps that you will have to take to set up your company.

Look for on line help. This means that when a question comes up while you are using the program, you need only push the Help key to get help on a particular operation or feature of the software. Also check for a toll free number that can provide help.

Ease of Use

The first step in the setup is getting the programs properly loaded onto diskettes or hard disk.

Ease of use means that the system helps rather than hinders the various operations. This includes setup of the system as well as the daily operations. When you are out shopping for the software, read the section of the manual about loading programs, and see if you can follow the steps for the equipment you are considering

After considering the setup, you should look at the overall system design. Look for underlying metaphors, in which the computer operations relate to items and operations familiar from your manual system. If it is easier to visualize, it will be easier for you and your staff to learn it and use it

Related to the overall design is the system's flow. This is a combination of communication ability and speed. A display screen can contain too much information or too little; the result will be slower operation and/or increased errors. You should be able to look at the screen and have a good idea of what is going to happen next for each option you might choose.

There are various other helpful features to look for. The backup operations are extremely important. They will have to be done after each data entry session and at the end of the month. It should not send you to the computer's operating system to accomplish this task. The program should also tell you how many transactions will fit in the remaining space or the percentage of space remaining.

Reports

Accounting systems vary greatly in the types of reports produced and in how you request them. Some systems allow you to send a report to the display screen or the printer. Since you will probably want the same set of reports each week and month, it is also handy to be able to store such lists of reports for repeated use.

Look at the sample reports in the manuals. They should not be too cluttered nor have too many unintelligible abbreviations. Some accounting programs come with all of the reports already designed, which may or may not fit your needs. Check for a report generator that allows you to format reports.

Security

You need to consider three areas of security: system, data, and accounting.

System security means control the access to the accounting system. It concerns locked doors, keylock on/off switches, and several passwords.

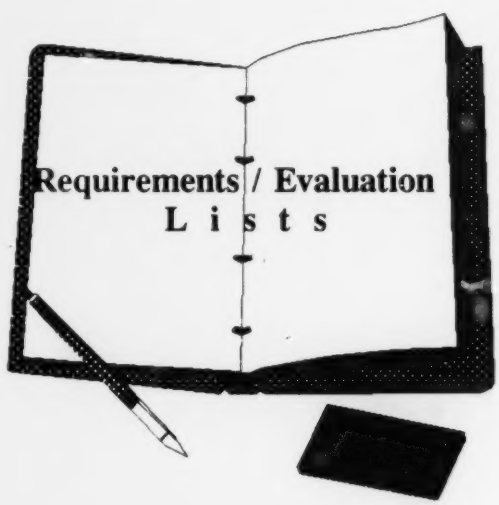
Data security pertains to the fragility of your stored information. With a good set of backup and recovery procedures you will lessen the problem of loss data. Try the backup operation for each system you are considering buying.

Recovery is the operation that you will carry out by using your backup data. The only way to ensure that your recovery procedure is adequate is to go through a realistic enactment of data loss and recovery.

The accounting aspects of security also involve maintaining the integrity of the data, not in a physical sense but in a system analysis sense. This means you must ask what assurances you have that the correct processing has taken place and that the results reported to you are indeed what they are represented to be. Just as with a manual accounting system, each result reported should be traceable, step by step back to the original document and forward again. These links are known as audit trails. And just as with the manual system, your accounting system should always remain in balance, and the software should indicate or refuse to post a transaction that could cause your books not to balance.

Requirements/Evaluation Lists

We have talked about determining your needs before entering the micro marketplace. In the following section there is a set of lists that will guide you through this task. There is a list for each of the standard modules and one for those features that are important to all modules. They include the important features that most programs should consider. These lists will serve several useful purposes. First, use them to organize your description of your current systems as you analyze them. Second, note on them description changes you plan to make and then mark every item as "required", "desired or don't' care." Finally, use them to evaluate each accounting software package that is presented to you. This will make your evaluations consistent and ensure that all of your requirements and desires have been considered.



REQUIREMENTS/EVALUATION LIST--OVERALL SYSTEM

Support	R*	D*	DC*
1. Evaluation			
a. can find information needed	[ ]	[ ]	[ ]
b. sample reports provided	[ ]	[ ]	[ ]
c. current Head Start users to talk to	[ ]	[ ]	[ ]
2. Demonstrations	[ ]	[ ]	[ ]
3. Tutorials and sample data adequate	[ ]	[ ]	[ ]
4. Manuals clear, complete, easy to use	[ ]	[ ]	[ ]
5. Training provided	[ ]	[ ]	[ ]
a. on computer use	[ ]	[ ]	[ ]
b. on accounting software	[ ]	[ ]	[ ]
6. After-sales support: Who provides it? At what costs?	[ ]	[ ]	[ ]
a. local dealer	[ ]	[ ]	[ ]
b. regional distributor	[ ]	[ ]	[ ]
c. software publisher	[ ]	[ ]	[ ]
7. Return policy	[ ]	[ ]	[ ]
Ease of Use			
8. Are the setup instructions clear?	[ ]	[ ]	[ ]
9. Rate the data entry/posting operations (try it!)	[ ]	[ ]	[ ]
10. Rate the backing up operations	[ ]	[ ]	[ ]
11. Are the end-of-period closing instructions/dem.clear?	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST--OVERALL SYSTEM

Features	R*	D*	DC*
12. Number of accounting periods (per year):_____	[ ]	[ ]	[ ]
13. Can start new period before closing the old period	[ ]	[ ]	[ ]
14. Printer size:			
a. number of columns required:_____	[ ]	[ ]	[ ]
b. supports compressed characters mode	[ ]	[ ]	[ ]
15. Can transfer accounting data to spreadsheet or data base program?	[ ]	[ ]	[ ]
16. List any exceptional features desired.			
a. _____			
b. _____			
c. _____			
Security			
17. Describe the access controls for the PC system. (in detail or satisfactory/unsatisfactory, as desired)			
18. Describe the access controls for the accounting operations.			
19. Batch system?	[ ]	[ ]	[ ]
20. Allows editing/deletions	[ ]	[ ]	[ ]
a. of active accounting numbers	[ ]	[ ]	[ ]
b. of active account balances	[ ]	[ ]	[ ]
c. of posted transactions	[ ]	[ ]	[ ]
21. Allows out-of-balance condition	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST--OVERALL SYSTEM

Long-Term Considerations

List the computers and operating systems it will run on.
(Will this limit your expansion options later?)

a. _____

b. _____

c. _____

d. _____

23. Third party support, both programmers and developers of hardware accessories -- this is an indication of acceptance and thus compatibility with future developments.

---

* R = Required
* D = Desired
* DC = Don't Care

REQUIREMENTS/EVALUATION LIST -- GENERAL LEDGER

Capacities	R*	D*	DC*
1. Account number structure			
a. alphanumeric	[ ]	[ ]	[ ]
b. number of digits in main account number:_____	[ ]	[ ]	[ ]
c. number of subaccount (department digits)_____	[ ]	[ ]	[ ]
d. number of characters in description:_____	[ ]	[ ]	[ ]
2. Number of accounts in your chart of accounts:_____	[ ]	[ ]	[ ]
a. number range of assets	_____to_____		
b. number of range of liabilities	_____to_____		
c. number range of equity accounts	_____to_____		
d. number range of income accounts	_____to_____		
e. number range of cost of goods sold	_____to_____		
f. number range of expenses	_____to_____		
3. Number of journal entries:			
a) per batch_____	[ ]	[ ]	[ ]
b) per period _____	[ ]	[ ]	[ ]
4. Number of companies to be handled _____	[ ]	[ ]	[ ]
5. Number of departments to be handled _____	[ ]	[ ]	[ ]
6. Number of journals to be handled_____	[ ]	[ ]	[ ]
7. Maximum transaction amount			_____
8. Maximum total amount to be handled			_____

REQUIREMENTS/EVALUATION LIST -- GENERAL LEDGER

Reports	R*	D*	DC*
9. Types of statements desired			
a. balance sheet	[ ]	[ ]	[ ]
b. balance sheet with prior year comparisons	[ ]	[ ]	[ ]
c. income statement	[ ]	[ ]	[ ]
d. income statement with departmental income statement	[ ]	[ ]	[ ]
e. income statement with monthly budget comparisons	[ ]	[ ]	[ ]
f. income statement with prior year comparisons	[ ]	[ ]	[ ]
g. statement of changes in financial position	[ ]	[ ]	[ ]
h. subsidiary schedules to financial statements (for additional details)	[ ]	[ ]	[ ]
i. other custom reports	[ ]	[ ]	[ ]
10. Number of different formats desired for each financial statement _____	[ ]	[ ]	[ ]
11. Additional special reports or schedules	[ ]	[ ]	[ ]
12. Flexibility:			
a. formats fixed	[ ]	[ ]	[ ]
b. formats by assigning each account a type	[ ]	[ ]	[ ]
c. allows multiple formats	[ ]	[ ]	[ ]
13. Chart of accounts printout fits your needs	[ ]	[ ]	[ ]
14. Trial balance worksheet format meets your needs	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- GENERAL LEDGER

15. **General ledger**	**R***	**D***	**DC***
a. format meets your needs	[ ]	[ ]	[ ]
b. separate report for each period	[ ]	[ ]	[ ]
c. multi-period detail in one report	[ ]	[ ]	[ ]
Reports	**R***	**D***	**DC***
16. Reports displayed or printed:			
a. all go only to printer	[ ]	[ ]	[ ]
b. individual account inquiries to screen	[ ]	[ ]	[ ]
c. some reports to screen	[ ]	[ ]	[ ]
d. any report can be displayed to screen	[ ]	[ ]	[ ]
Features			
17. Accounting basis:			
a. cash	[ ]	[ ]	[ ]
b. accrual	[ ]	[ ]	[ ]
c. fund	[ ]	[ ]	[ ]
18. Number of capital accounts possible	[ ]	[ ]	[ ]
19. Automatic posting of recurring entries (e.g. depreciation)	[ ]	[ ]	[ ]
20. Automatic allocation of expenses	[ ]	[ ]	[ ]
21. Automatic reversing of journal entries	[ ]	[ ]	[ ]

22. Correcting entries postable

a. to prior period [ ] [ ] [ ]

b. to prior year [ ] [ ] [ ]

23. List any exceptional features desired.

a. _____

b. _____

REQUIREMENTS/EVALUATION LIST -- ACCOUNTS PAYABLE

Capacities	R*	D*	DC*
1. Vendor number structure:			
a. alphanumeric	[ ]	[ ]	[ ]
b. number of digits in vendor number:_____	[ ]	[ ]	[ ]
c. number of characters in description:_____	[ ]	[ ]	[ ]
2. Other vendor information to be accumulated:_____	[ ]	[ ]	[ ]
3. Number of accounts payable control accounts in your general ledger _____	[ ]	[ ]	[ ]
4. Number of general ledger accounts referenced by the accounts payable module _____	[ ]	[ ]	[ ]
5. Number of recurring entries _____	[ ]	[ ]	[ ]
6. Number of one-time vendors per period_____	[ ]	[ ]	[ ]
7. Number of invoices_____	[ ]	[ ]	[ ]
a. per batch:_____	[ ]	[ ]	[ ]
b. per period:_____	[ ]	[ ]	[ ]
8. Number of checks			
a. per batch:_____	[ ]	[ ]	[ ]
b. per period:_____	[ ]	[ ]	[ ]
9. Number of checking accounts:_____	[ ]	[ ]	[ ]
10. Maximum invoice amount		$_____	
11. Maximum total amount to be handled		$_____	
12. Number of lines per voucher description (The voucher is the portion on the check where the invoice number and description is written):_____	[ ]	[ ]	[ ]

1.0

REQUIREMENTS/EVALUATION LIST -- ACCOUNTS PAYABLE

Reports

13. Aging reports:			
a. summary	[ ]	[ ]	[ ]
b. detail	[ ]	[ ]	[ ]
c. all vendors	[ ]	[ ]	[ ]
d. selected vendors	[ ]	[ ]	[ ]
e. by due date	[ ]	[ ]	[ ]
f. by amount owed	[ ]	[ ]	[ ]
g. by other	[ ]	[ ]	[ ]
h. future amounts due	[ ]	[ ]	[ ]
i. on-screen inquiries	[ ]	[ ]	[ ]
14. Vendor roster:			
a. alphabetical	[ ]	[ ]	[ ]
b. numerical	[ ]	[ ]	[ ]
c. mailing labels	[ ]	[ ]	[ ]
15. Payment selection listing	[ ]	[ ]	[ ]
16. Checks			
a. inhibits zero and negative amounts	[ ]	[ ]	[ ]
b. check "protector" pattern	[ ]	[ ]	[ ]
17. Check register			
a. flags breaks in the number sequence	[ ]	[ ]	[ ]
b. lists manually prepared checks	[ ]	[ ]	[ ]
c. notes voided checks	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- ACCOUNTS PAYABLE

18. Outstanding checks listing	[ ]	[ ]	[ ]
19. Discounts lost	[ ]	[ ]	[ ]
20. Vendor analysis	[ ]	[ ]	[ ]
21. Summary journal entries	[ ]	[ ]	[ ]
22. Detail journal entries	[ ]	[ ]	[ ]
23. Vendor ledger	[ ]	[ ]	[ ]

Features

24. Payment selection options (who to pay):			
a. by vendor name	[ ]	[ ]	[ ]
b. by vendor number	[ ]	[ ]	[ ]
c. by due date	[ ]	[ ]	[ ]
d. by aging	[ ]	[ ]	[ ]
e. by invoice number	[ ]	[ ]	[ ]
f. by exception (pay all except...)	[ ]	[ ]	[ ]
25. Hold payment(s) option	[ ]	[ ]	[ ]
26. Reverse an invoice previously selected for payment	[ ]	[ ]	[ ]
27. Voided checks	[ ]	[ ]	[ ]
a. computer prepared	[ ]	[ ]	[ ]
b. manually prepared	[ ]	[ ]	[ ]
28. Recurring checks	[ ]	[ ]	[ ]
29. Credit memos	[ ]	[ ]	[ ]
30. Debit memos	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- ACCOUNTS PAYABLE

Features

31. Finance charges	[ ]	[ ]	[ ]
32. Discounts	[ ]	[ ]	[ ]
33. Discounts forced (past discount date)	[ ]	[ ]	[ ]
34. Partial payments	[ ]	[ ]	[ ]
35. Manually prepared checks	[ ]	[ ]	[ ]
36. One-time-only checks	[ ]	[ ]	[ ]

37. List any exceptional features

a. _____

b. _____

c. _____

d. _____

---

* R = Required
* D = Desired
* DC = Don't Care

REQUIREMENTS/EVALUATION LIST -- PAYROLL

Capacities	R*	D*	DC*
1. Employee account number structure:			
a. alphanumeric	[ ]	[ ]	[ ]
b. number of digits in employee account number:_____	[ ]	[ ]	[ ]
2. Employee information to be accumulated:_____	[ ]	[ ]	[ ]
3. Number of payroll accounts in your general ledger_____	[ ]	[ ]	[ ]
4. Number of general ledger accounts referenced by the payroll _____	[ ]	[ ]	[ ]
5. Number of permanent employees: _____	[ ]	[ ]	[ ]
6. Types of pay period(s) (semimonthly, etc.)	[ ]	[ ]	[ ]
7. Maximum paycheck amount			$_____
8. Maximum total amount to be handled			$_____
9. Maximum number of employees_____	[ ]	[ ]	[ ]
10. Number of optional deductions:_____	[ ]	[ ]	[ ]
Reports			
11. Checks:			
a. fixed format	[ ]	[ ]	[ ]
b. flexible format	[ ]	[ ]	[ ]
12. Check register	[ ]	[ ]	[ ]
13. Employee roster	[ ]	[ ]	[ ]
14. Employee inquiry (all details)	[ ]	[ ]	[ ]
15. Wage reports (individual employee compensation records)	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- PAYROLL

Reports	**R***	**D***	**DC***
16. Payroll summary			
17. Pre-checking-printing report	[ ]	[ ]	[ ]
18. 1099s	[ ]	[ ]	[ ]
19. 941s	[ ]	[ ]	[ ]
20. W2s	[ ]	[ ]	[ ]
21. Checks	[ ]	[ ]	[ ]
a. inhibits zero and negative amounts	[ ]	[ ]	[ ]
b. check "protector" pattern	[ ]	[ ]	[ ]
22. Check register	[ ]	[ ]	[ ]
a. flags breaks in the number sequence	[ ]	[ ]	[ ]
b. lists manually prepared checks	[ ]	[ ]	[ ]
c. notes voided checks	[ ]	[ ]	[ ]
23. Summary journal entries	[ ]	[ ]	[ ]
24. Details journal entries	[ ]	[ ]	[ ]
25. Outstanding checks listing	[ ]	[ ]	[ ]
Features			
26. Payroll types:			
a. hourly	[ ]	[ ]	[ ]
b. salaried	[ ]	[ ]	[ ]
c. commission	[ ]	[ ]	[ ]
d. other	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- PAYROLL

Features	R*	D*	DC*
27. Supplemental pay:	[ ]	[ ]	[ ]
a. holiday	[ ]	[ ]	[ ]
b. vacation	[ ]	[ ]	[ ]
c. sick time	[ ]	[ ]	[ ]
d. other	[ ]	[ ]	[ ]
28. Manually prepared checks	[ ]	[ ]	[ ]
29. Voided checks	[ ]	[ ]	[ ]
a. computer prepared	[ ]	[ ]	[ ]
b. manually prepared	[ ]	[ ]	[ ]
30. Automatic deductions	[ ]	[ ]	[ ]
a. union fees	[ ]	[ ]	[ ]
b. loans	[ ]	[ ]	[ ]
c. garnishments	[ ]	[ ]	[ ]
d. health insurance	[ ]	[ ]	[ ]
e. other	[ ]	[ ]	[ ]
31. Worker's compensation calculations	[ ]	[ ]	[ ]
32. Terminated employees	[ ]	[ ]	[ ]
33. Inactive employees	[ ]	[ ]	[ ]
34. Pay advances	[ ]	[ ]	[ ]

REQUIREMENTS/EVALUATION LIST -- PAYROLL

Features	R*	D*	DC*
35. Withholding tables:			
a. entered and maintained by user	[ ]	[ ]	[ ]
b. supplied and updated by software publisher	[ ]	[ ]	[ ]

36. List any exceptional features

a. _____

b. _____

c. _____ _____

d. _____

---

* R = Required
* D = Desired
* DC = Don't Care

The Conversion Process

Even after you have decided to computerize, have selected an appropriate system, and have purchased it, you are only halfway there. There are a couple of steps that still have to be completed: the software installation and the conversion process. The installation is the process of putting the software and hardware together. The conversion consists of gathering and entering data, training personnel, and testing.

After the installation the key to transition is planning. How and when to input the setup information, how and when to get people involved, and anticipating the impact that the conversion process itself will have on your staff.

The Steps to a Conversion

There are nine general phases to the conversion of each accounting module.

1. Study your current system
2. Design the new system
3. Set up the software structures
4. Gather and organize the data
5. Enter and verify the data
6. Operator training
7. System testing and start-up
8. Integration between modules
9. Final documentation of producers

The first part of your preparation for conversion is to sit down with the manuals and do some studying. You will have to sift through the manuals to find out how and when to do the different procedures. If you are having problems with the planning stage, you might want to consider getting help.

A prerequisite for your conversion is to have your books in good order. This is the time for you to consider making improvements or changes in your accounting system. As you study each software module in preparation for the conversion, look at the structures and features built in it, and note those that are especially appropriate or inappropriate for your program. If you can convert to the computerized system as of the beginning of your fiscal year, it will be easier. This puts the books into especially good order for the conversion.

Which Module First?

You shouldn't automatically decide to convert your worst problem area first. Starting with the general ledger module has many advantages. The general ledger is the easiest and fastest conversion in most cases. It also stands the greatest chance of success on the first try.

Designing the New System

You are designing your system when you are deciding such things as how your general ledger accounting numbers will be structured, what reports you want, and how those reports will be structured, and how those reports will look.

The general ledger module requires a more extensive design phase than the other modules. The chart of accounts is the key to how the data will be accumulated. If you want more detail, then you will need to set up accounts to capture that detail. The journals will have to reflect your accounting system.

Setting Up the software structure

This phase of the conversion is intimately related to the system design phase, for it is the process of telling the software what design decisions you have. It is a one-time process and is critical to the success of the conversion.
Gather your data together and organize it before starting to enter it into the computer. Data should be brought together and the calculations performed before even turning on the computer.

To do this, first list how your software requests the data: what form and in what order. Then locate those data items in your records, and note on the list where they are to be found. Finally, if the data is scattered, compile your data onto an appropriate DATA INPUT FORM for that data entry session. These data input forms are not only for the entering of data. They are necessary for the verification of the data after it has all been entered. It takes an experienced person about a month to enter all data.

Operator Training

For best results with your current staff, involve them early- as soon as you decide you are definitely going to computerize. It usually takes a long time before a new user begins to feel comfortable around the computer. Most people respond positively to rewards, so you can show your people how the computer will enhance their jobs once they help you get it started up. Also arrange to give your employees formal training on the computer.

System Start-up and Testing

After entering the initial data, you are ready to start entering transactions in parallel with your old system. This means that each transaction should be entered in the same way in both systems, so they can be evaluated for comparable results. These parallel runs are typically done for two or three accounting periods. It is not less work, but it is quicker to do the first two parallel runs over the last two months prior to conversion.

Integration of Modules

First, have the modules involved running correctly in a stand-alone mode before integrating them. Then, make a duplicate copy of all your accounting data and use the copy to practice the integration operation. If the results are not correct, you can make any number of these practices until the procedure works. Document this procedure and test if one more time before you use it to integrate your live system.

An important part of your conversion is the documentation of the procedures you develop. Your operators will need step-by-step sequences written down for each of the various operations in your system. A good way to develop this documentation is to have a second person make notes as the daily and monthly operations are performed at the computer. It is also a good idea to insert into this document some notes concerning common or anticipated errors and how to recover from them.

The checklists that follow help by showing the steps to be done in the conversion process of each module. For each task on the lists, decide who will do it, and estimate how long it might take. Your estimates will depend on your program situation, on the level of your help (and their availability), and on your software.

After you have developed a schedule for the individual modules you will be converting, you should bring the whole project together and look at the overall time and labor requirements.

Trial Balance

General Ledger Conversion Checklist

I. Study current system

II. Design new system

A. Design chart of accounts

1. What departments will be involved (e.g., locations, branches, cost centers, profit centers)?
2. What level of detail is desired (e.g., accounts to show all donations or accounts to show donations broken down by categories)
3. Rewrite chart of-accounts to include any changes.

B. Design journals

1. What journals will be needed (e.g., cash receipts, cash disbursements, general journal)?

C. Design reports.

1. What types of reports are desired/needed?

a. Chart of accounts
b. Balance sheet

(1) Balance sheet with prior-year comparison

c. income statement

(1) income statement with departmental income statements
(2) income statement with monthly budget comparisons
(3) income statement with prior-year statements

d. statement changes in financial position
e. subsidiary schedules to financial statements (for additional detail)
f. other custom reports

D. Design password system

III. **Set up software structure (differs significantly between brands of software.)**

A. Enter the new user information, such as Head Start program name and address, passwords, and sometimes type of printer, balance forward date, and so on.

B. Enter the chart of accounts and balance forward amounts. (You will need a trial balance as of the balance forward date for the general ledger.)

C. Enter the desired report formats (if your program allows this to be done separately from the data entry procedure).

D. Verify all of the data entered by printing out and proofing the appropriate reports. For example, the chart of accounts, the general ledger, and the financial statements.

E. Make corrections as necessary.

IV. **Gather and organize data.**

A. For comparative reports, you will need a trial balance for each month (or quarter) that you will want to compare.

B. For monthly budgets, you will need a worksheet showing the monthly budget amounts for each account involved.

V. **Data entry and verification**

A. Use the above worksheets to enter amounts.

B. Print out the appropriate reports and verify the amounts against the original worksheets

C. Make corrections as necessary.

VI. **Operator training (for day-to-day operations)**

A. Formal training

1. Send employees
2. Training sessions with specialist (who knows the accounting software and is familiar with your accounting system)

B. Informal training

1. Tutorials
2. On-the-job training (from someone in the Head Start Program who has been trained)
3. Discussion groups (to answer questions, allay fears, describe benefits)

VII. System testing and start-up

A. Start entering transactions to appropriate journals, in parallel to your current system.

1. At the completion of the first accounting period (usually a month), print the journal entry listings, the general ledger, and the financial statements, and compare them to the manual system

2. Locate the source of any discrepancies, and make adjustments

VIII. Integration of modules

A. Be sure that each additional module is running correctly in a stand-alone mode before integrating it into the rest of your system

B. Use an extra (duplicate diskette) copy of your accounting data (for the modules involved) to do a trial integration (i.e., do a parallel run to your computer system).

C. Print out the appropriate reports and check the integration results.

D. Locate the source of any problems, make adjustments, and try it again

E. Only when it is working correctly should you integrate your live system

IX. Final documentation of your micro-accounting procedures

A. As you start up your daily entry on the computer system, make notes as to how that entry is being performed. (step by step, in detail, plus notes on common or anticipated errors, and how to recover from them)

B. Compile the notes on the various operations into an organized document.

C. Test the document by carrying out (on the computer) every step listed.

Accounts Payable Conversion Checklist

I. Study current system

II. Design new system

A. Determine what, if any, recurring entries will be needed
B. Determine vendor number
C. Determine what information is to be accumulated on each vendor.
D. Design format of checks, if applicable to your software
F. Order checks to fit the new system
D. Determine password system.

III. Set up software structure (differs significantly between brands of software.)

A. Enter the new user information, such as Head Start program name and address, passwords, and sometimes type of printer, balance forward date, and so on.
B. Enter the desired report formats (if applicable).
C. Verify all of the data entered by printing out and proofing the appropriate reports.
D. Make corrections as necessary.

IV. Gather and organize data.

A. Determine the input form for setting up the payables (what specific information, and the order in which it will be needed.)
B. Locate the data items and determine how much gathering and compiling will be needed. You want to end up with just one sheet of information for each vendor. You may be able to just use a current form and add a few numbers to it.
C. For setting up recurring entries, you will need to compile a list of customer numbers, customer names, amounts, and perhaps frequency
D. For setting up the terms codes, you will need to compile appropriate lists.

V. Data entry and verification

A. Use the above worksheets to enter amounts.
B. Print out the appropriate reports and verify the amounts against the original worksheets.
C. Make corrections as necessary.

VI. Operator training (for day-to-day operations)

A. Formal training

1. Send employees to classes
2. Training sessions with specialist (who knows that accounting software and is familiar with your accounting system)

B. Informal training

1. Tutorials
2. On-the-job training (from someone in the Head Start Program who has been trained)
3. Discussion groups (to answer questions, allay fears, describe benefits)

VII. System testing and startup

A. Start entering transactions to appropriate journals, in parallel to your current system.

1. Note that your live checks should be coming from your manual system and that you should be printing facsimiles on plain white paper.

B. At the completion of the first accounting period (usually a month), print the check register, the journal entry listings, the vendor ledger, and other reports, and compare them to the manual system.

C. Locate the source of any discrepancies and make adjustments

VII. Integration of modules

A. Be sure that each additional module is running correctly in a stand-alone mode before integrating it into the rest of your system
B. Use an extra (duplicate diskette) copy of your accounting data (for the modules involved) to do a trial integration (i.e., do a parallel run to your computer system).
C. Print out the appropriate reports and check the integration results.
D. Locate the source of any problems, make adjustments, and try it again.
E. Only when it is working correctly should you integrate your live system.

IX. Final documentation of your micro-accounting procedures

A. As you start up your daily entry on the computer system, make notes as to how that entry is being performed. (step by step, in detail, plus notes on common or anticipated errors, and how to recover from them).

B. Compile the notes on the various operations into an organized document.

C. Test the document by carrying out (on the computer) every step listed.

Payroll Conversion Checklist

I. Study current system

II. Design new system

A. Design employee numbers
B. Determine what information is to be accumulated on each employee
C. Determine the various non-tax deductions needed for the various employees and label them as required by the software
D. Determine which non-tax deductions are automatic
E. Design format of checks, if applicable to your software
F. Order checks to fit new system
G. Determine password system

III. Set up software structure (differs significantly between brands of software.)

A. Enter the new user information, such as Head Start program name and address, passwords, and sometimes type of printer, balance forward date, and so on.
B. Enter the desired report formats (if applicable).
C. Verify all of the data entered by printing out and proofing the appropriate reports.
D. Make corrections as necessary

IV. Gather and organize data

A. Determine the input form for setting up the payables (what specific information, and the order in which it will be needed.)
B. Locate the data items and determine how much gathering and compiling will be needed. You want to end up with just one sheet of information for each vendor. You may be able to just use a current form and add a few numbers to it.
C. Compile the input forms
D. For setting up the tax tables (if not supplied within the software), you will need to compile a list of tables needed and gather together copies of those tables (as in the "Employer's Tax Guide," Circular E, from the Internal Revenue Service).

V. Data entry and verification

A. Use the above worksheets and tax tables to enter amounts
B. Print out the appropriate reports and verify the amounts against the original worksheets
C. Make corrections as necessary.

VI. Operator training (for day-to-day operations)

A. Formal training
   1. Send employees to classes
   2. Training sessions with specialist (who knows the accounting software and is familiar with your accounting system)

B. Informal training

   1. Tutorials
   2. On-the-job training (from someone in the Head Start Program who has been trained)
   3. Discussion groups (to answer questions, allay fears, describe benefits)

VII. System testing and start-up

A. Start entering transactions to appropriate journals, in parallel to your current system.

   1. Note that your live payroll checks should be coming from your manual system and that you should be printing facsimiles on plain white paper.

B. At the completion of the first payroll period print the payroll check register, the journal entry listings, the employee ledger, and other reports, and compare them to the manual system.

C. Locate the source of any discrepancies and make adjustments.

VIII. Integration of modules

A. Be sure that each additional module is running correctly in a stand-alone mode before integrating it into the rest of your system
B. Use an extra (duplicate diskette) copy of your accounting data (for the modules involved) to do a trial integration (i.e., do a parallel run to your computer system).
C. Print out the appropriate reports and check the integration results.
D. Locate the source of any problems, make adjustments, and try it again.
E. Only when it is working correctly should you integrate your live system.

IX. Final documentation of your micro-accounting procedures

A. As you start up your daily entry on the computer system, make notes as to how that entry is being performed. (step-by-step, in detail, plus notes on common or anticipated errors, and how to recover from them).
B. Compile the notes on the various operations into an organized document.
C. Test the document by carrying out (on the computer) every step listed.

Standard Operation Procedures

When the computer system is first installed, appropriate operating procedures should be set up that will be able to handle both current situations and your projected growth for the next few years. Only by organizing the procedures and writing them down will you achieve consistent results.

If you plan to use a single -user PC for other applications besides accounting, the access to the computer will have to be controlled. Also consider the location of the computer. The easiest way to share a PC between components is to put it in its own room. In some situations a roll-around cart can work out well.

Data Entry Sessions

Data entry should be organized into sessions rather than carried out haphazardly. The major source of errors in a computerized accounting system is the entry of incorrect data.

A typical data entry session consists of several parts. These might include all or a portion of the following: data accumulation and preparation, data input, data verification, data file backup, posting to journals, and printing transaction listings.

Batching Data

Because of the importance of getting data into the system correctly, some PC accounting systems use batch systems for data entry. This means that the financial transactions are not just typed into the computer in any order or in short spurts. They must be divided into batches and prepared for entry before being typed. Each batch is assigned a unique number and tracked through the system as an entity. For each batch, the computer can easily accumulate totals on any or all the numbers that are entered. If the numbers are totaled manually before they are entered, the totals can be compared to the computer's totals.

Editing

The ease of editing the entries as they are entered into the computer affects the speed of data entry.

Verifying

The computer system will often force a report listing of the transactions just entered. Use this list to check transactions. If possible, have someone other than the person who entered them do the checking.

Posting

When you judge the transactions to be in good order, you instruct the accounting system to post them. Once this has been done, further direct changes are usually not allowed. Instead any changes must be made by adjusting journal entries. Generally, the posting operation should be done at the end of each data entry session. Many accounting systems refuse to post a set of transactions if they are not in balance.

Backups and Recovers

The most valuable part of your computerized accounting system will be the records of your program that are accumulated over time. To protect against loss of records, you must back up your data on a regular basis.

There are two types of backup: backup done for archival purposes and backup done in case the working data is destroyed, damaged, or suspected to be incorrect for any reason. The archival copies are usually made at the end of every month.

One duplicate copy is not protection for very long because your data is constantly changing. . Over the years the data processing industry has learned some effective ways to protect information. The key to these procedures is to use a rotation scheme, such as having one backup diskette for each day of the week or using a grandparent-parent-child rotation. The day-of the-week procedure copies the data onto one backup diskette on Monday, then that diskette is stored. The following Monday that same diskette is used to copy the data again. (In the process the data that is stored on that diskette a week earlier gets erased to make room for the new data.) A second diskette is used for Tuesdays, a third for Wednesdays, and so on. This is a good procedure if the system is backed up several days a week.

The grand-parent-child procedure is more general in purpose. It is a three-diskette rotation that always uses the older copy for the next backup operation. A tape backup will facilitate backup and will increase the chances of the backup operation being done regularly and correctly.

Recovering

Whenever something happens that forces you to rely on your backup data, you must go through the recovery. This is the reason for keeping three levels of backup data. It gives you three changes to achieve successful recovery.

The recovery procedure involves certain steps.

1. Determine the cause of the problem
2. Correct the problem
3. Test the microcomputer system
4. Write-protect the backup diskettes involved
5. Make a duplicate copy of the most recent backup diskettes(s)
6. Replace the incorrect or suspected data
7. Test the accounting system

End-of Period Processing (Closing)

The steps to go through on a computerized system are as follows:

1. Make a backup copy of the accounting data
2. Post the various journals to the ledger
3. Print a trial balance worksheet
4. Make appropriate standard, adjusting, and reversing journal entries, and post them
5. Print and review the reports
6. Repeat steps 3, 4, and 5 until the books are correct
7. Make a backup copy of the data
8. Print the final reports
9. Make an archival copy of the data
10. Tell the system to update the books
11. Print any reports necessary to verify that the updating has been successfully completed

End of-year processing

At the end of each fiscal year, you will first carry out the same operations as the end of every monthly accounting period: The adjustments, the posting, the reports, the backups, and the updating. You will then instruct the accounting system to carry out the end-of-the year process that tells the computer to zero all accounts. This is also the time to set new budget figures into the system.

Accounting Matrix

ACCOUNTING MATRIX

Software	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Company	SourceMate Information Systems, Inc	Computerized Multi Systems, Inc	Blackbaud	Cougar Mountain Software	Echo Consulting,Inc	Executive Data Systems, Inc	Kenrick Tech, Inc.	Corbin Willits Systems	Software Services -DE
Address	20 Sunnyside Ave Mill Valley, CA	516 Berry Lane Paramus, N.J. 07652	4401 Belle Oaks Dr Charleston,SC 29405	2609 Kootenai P.O. Box 6886 Boise, ID	P.O. Box 540 Main Street Center Conway, NH 03813	1845 The Exchange Suite 140 Atlanta, GA 30339	8760 Manchester Rd Suite 202 St. Louise,MO 63144	35754 Misson Blvd Fremont, CA 94536	91 Lukens Dr New Castle,DE 19720
Phone Number	(800) 877-8896	East C (800) 695-9779 West C (800)922-3687	(800) 443-9441	(800) 388-3038	800 635-8209	800 272-3374	800 659-2022	800 333-1575	302 652-3370

Background Information

Years in business	8	19	12	9	12	12	5	15	11
Years fund accounting G/L & A/P software in use	8	15	12	8	12	12	5	15	11
Approximate fund accounting sites	900	750	2,500	20,000	500	850	500+	150	150
Primary programming language	dbase 3+	Comp Basic	C	C,Comp Basic	Clipper	C	C	Basic	Clipper

Prices	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
System User	Si/Multi	Si/Multi	Si/Multi	Si/Multi	Si/Multi	Si/Multi	Si/Multi	Si/Multi	Si/Multi
General Ledger (G/L)	$295-595	$1585/ 2495	$2000/ 2500	$599.50/ 1,199.50	$995	$850	$995	$1,835/ 3,160	$1200
Accounts Payable	$295-595	$495	*$2000/2500	included	$995	$600	$795	$1,295/2,350	$1200
Pur. Order Rec.	$295-595		$2000/2500	included		$600		$1,155/2,140	
Encumbrance	N	included	$1200/1500	included		N		$490/735	
Payroll	$295-595	$795/995	$2000/	included	$995	$750	$795	$1,545/2,775	$1,200
Accounts Receiv.	$295-595	included	$2000/2500	$149.50/ 199.50 +	$995	$600	$795	$1,948/ 3,330	$1,200
Accounts Receiv. (Utilities)	$295-595	included		included		included	included	included	
Inventory	$295-595			included		$600		1,635/2,860	
Project/Grant reporting	N	included		N		$400	Incl/w GL	included with RSU	
Enhanced report writer	N	included	*$6000/ 7000	$199.50/ 249.50	N	N	Y	included with G/L	Y
Fixed assets	N	$695	$1500/1800	N	$500	$1450	$395	$965/1,755	
Donor tracking	N		*$6000/7000	N	$995	N		$1,650/3500	$1,200
Network system manager (5 users)	N	$400		included		included		Varies	
Single user system manager	N	included		included		N	Incl/w GL	$350	
Budget reporting	N	included	$1200/1500	Y	included	included	N	included	
Annual fee	N	Y	20% of software cost	N	$295	N	N	Y	$180 per module

Support	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Toll-free number	N	Y	Y	Y	Y	Y	Y	N	N
Certified consultant training	Y	Y	Y	Y	Y	Y	Y	Y	Y
Certified/dealer/reseller training		Y	Y	Y	Y	Y	Y	N	N
On-site training by your company	N	Y	Y	Y	Y	Y	Y	Y	Y
Printed tutorials	Y	Y	Y	Y	Y	Y	Y	N	Y
On-line tutorials	N	Y	Y	Y	N	Y	on-line docs.	Y	N

LAN's Supported

Novell Netware	Y	Y	Y	Y	Y	Y	Y	Y	Y
MBA Manager	N	Y	Y	Y	N	Y	Y	Y	Y
Banyan VINES	N	Y	Y	Y	Y	Y	Y	Y	Y
IBM PC LAN	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ungermann Bass	Y	Y	Y	N	Y	Y	N	Y	Y
3-COM	Y	Y	Y	Y	Y	Y	N	Y	Y
Unix/Xenix 386/486	N	Y	Y	Y	N	Y	N	Y	N
OS/2	N	Y	Y	Y	Y	Y	Y	Y	Y

Multiuser Systems Features	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Maximum number of concurrent users	256	unlimited		16				Unlimited	
Displays list of users currently logged in	Y	N	N	N	N	N	N	Y	N
File and record locking:									
Automatic retry of locked records after delay	Y	N	Y	Y	N	Y	N	Y	N
File lock allows read-only access	Y	Y	Y	N	N	Y	N	Y	N
Record lock allows reading by other users	Y	Y	Y	Y	N	Y	Y	Y	N
Security: User ID	Y	Y	Y	N	N	Y	N	Y	Y
Password	Y	Y	Y	Y	Y	Y	Y	Y	Y
Security level:									
system	Y	Y	Y	Y	Y	Y	Y	Y	Y
module	Y	Y	Y	Y	N	Y	N	Y	Y
function	Y	Y	Y	N	N	Y	N	Y	N
reports	Y	N	Y	N	N	Y	N	Y	N
account access	Y	N	Y	N	N	Y	N	Y	N
inquire only	N	N	Y	N	N	Y	N	Y	N
Support Novell's TTS	N	N	N	N	N	N	N	N	N

General Systems Features	Account-Mate	Accent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Quick maintenance for master file items-rebuild corrupt file via menu	N	Y	N	Y	Y	N	Y	Y	Y
Data entry field names customizable	N	Y	N	N	N	N	N	Y	N
Customizable user menus	N	Y	Y	N	N	Y	Y	Y	N
Full-screen editing	N	Y	Y	Y	N	Y	Y	Y	Y
Macro facility	N	Y	Y	N	limited	Y	Y	N	Limited
On-line Help	N	Y	Y	Y	limited	Y	Y	Y	N
Context sensitive	Y	Y	Y	Y	Y	Y	Y	Y	Y
Use any network printer	Y	Y	Y	Y	Y	Y	Y	Y	Y
Deferred report printing	Y	Y	Y	N	Y	Y	Y	Y	Y
Spools reports to disk	Y	Y	Y	Y	Y	Y	N	Y	N

Imports/Exports

Delimited ASCII files	N	Y	N	Y	N	Y	Y	N	Y
SDF ASCII files	N	Y	N	N	N	Y	Y	N	Y
.DIF files	N	N	N	N	N	N	N	N	Y
SYLK files	N	N	N	N	N	N	N	N	N
.DBF files	Y	N	N	N	N	N	N	N	N
WKI/WKS format	N	N	N	N	N	N	N	N	Y
Any verifications on journal import	N	N	N	N	N	N	N	N	N

Program Modification	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Source code available	N	N	N	Y	Y	N	N	Y	N
Do you modify for client	N	Y	N	Y	N	N	Y	Y	Y
Developer's guide available	N	N	N	Y	N	N	Y	Y	N

Graph Generation

Financial statements	N	Y	N	N	N	Y	N	N	N
Aging reports	N	N	N	N	N	Y	N	N	N
Cash requirements	N	N	N	N	N	Y	N	N	N
Cash flow (net A/P and A/R aging)	N	N	N	N	N	Y	N	N	N
Actual-to-budget comparison	N	Y	N	N	N	Y	N	N	N

General Ledger	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Max. no. of accounts	unlimited	32,000	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
Max. no. of funds	99	unlimited	unlimited	250	299	unlimited	unlimited	unlimited	unlimited
Max.no.of subacct. divisions permitted in G/L acct.		unlimited	unlimited			unlimited	unlimited	4	unlimited
User defined subacct. names	Y	Y	Y	Y	Y	Y	Y	Y	Y
Max. no. of open mos.	13	14	14	15	1	14	unlimited	13	24
Max no. of periods/fiscal yrs	13	14	14	13		14	14	13	13
Dollar limits on transactions	99 million	999 billion	999 billion	9 billion	9 billion	999 billion	99 billion	999 million	999 billion
Dollar limit on balances	9 9 billion	999 billion	999 billion	9 billion	9 billion	999 billion	99 billion	1 billion	999 billion
Posting not permitted for unbalance account	Y	Y	Y	Y	Y	Y	Y	Y	Y
Automatic reversing entries	N	Y	Y	N	Y	Y	Y	Y	Y
Automatic recurring entries	Y	Y	Y	Y	Y	Y	Y	Y	Y
Dist. bal. by formula	Y	Y	Y	Y	N	Y	N	Y	Y
Processing of 2 years simultaneously	N	Y	Y	N	N	Y	Y	Y	N
User-definable acct. stru.	Y	Y	Y	Y	Y	Y	Y	Y	Y
Other modules post detail to G/L automatically:	Y	Y	Y	Y	Y	Y	Y	Y	Y
Interface required	Y	Y	Y	Y	Y	Y	Y	Y	Y
On-line update	Y	N	Y	Y	Y	Y	Y	encu. only	
Reporting Periods: grant yr.	Y	Y	Y	Y	Y	Y	Y	Y	Y
fiscal	Y	Y	Y	Y	Y	Y	Y	Y	Y
calendar	Y	Y	Y	Y	Y	Y	Y	Y	Y

General Ledger Fund Accounting	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Maximum number of funds	2	unlimited	unlimited	unlimited	99	unlimited	unlimited	3	99
Copies accounts into other funds:									
By project	Y	Y	Y	N	N	Y	Y	Y	N
By department	Y	Y	Y	N	N	Y	Y	Y	N
Range of accounts	Y	Y	Y	Y	N	Y	Y	Y	N
Number of accounting periods	13	14	13	15	12	14	13	13	12
Tabular distribution to funds, projects, etc.	Y	Y	Y	N	N	Y	N	N	N
Detailed G/L maintained for two years	N	Y	Y	N	Y	Y	Y	Y	Y
View detail on-screen:									
By fund	Y	Y	Y	Y	Y	N	N	Y	Y
By department	Y	Y	Y	Y	Y	N	N	Y	Y
By project	Y	Y	Y	Y	Y	N	N	Y	Y
Automatic creation of closing entries	Y	Y	Y	Y	Y	Y	Y	Y	Y
Maximum characters in account structure	14	24	15	15	15	15	15	15	15
Mask on any character for reports	N	Y	Y	Y	Y	Y	Y	Y	Y

General Ledger Reports	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Changes in financial position statement	N	Y	Y	Y	N	Y	Y	Y	Y
Component of working capital report	N	Y	Y	Y	N	Y	Y	Y	Y
Cash flow statement	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cash flow report	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cash flow calendar listing projected cash date	N	Y	Y	Y	N	Y	Y	Y	Y
User-defined balance sheet	Y	Y	Y	Y	Y	Y	Y	Y	Y
User-defined income statement	Y	Y	Y	Y	Y	Y	Y	Y	Y
User-defined statement of charges	Y	Y	Y	Y	Y	Y	Y	Y	Y
User-defined column size	Y	Y	Y	Y	Y	Y	Y	Y	Y
User-defined descriptive captions	N	Y	Y	Y	Y	Y	Y	Y	Y
C/A by account, fund, project, department	Y	Y	Y	Y	Y	Y	Y	Y	Y
Trial balance by any subdivision of G/L account structure	Y	Y	Y	N	Y	Y	Y	Y	Y
Statement of revenue and expenses	Y	Y	Y	Y	Y	Y	Y	Y	Y
Statement of charges in trial balance	Y	Y	Y	Y	Y	Y	Y	Y	Y
Combined Statements: By fund All funds and account groups	Y Y	Y Y	Y Y	Y Y	Y	Y Y	Y	Y Y	Y
Comparative for combined statements	Y	Y	Y	Y	Y	Y	Y	Y	Y

Accounts Payable	Account Mate	Accent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Max number of invoices per payment	999	unlimited	unlimited	250	unlimited	unlimited	unlimited	unlimited	unlimited
Maximum number of account distribution fields	29	unlimited	unlimited	unlimited		unlimited	unlimited	varies	unlimited
Maximum number of bank accounts supported	10	unlimited	unlimited	unlimited	one	unlimited	unlimited	unlimited	99
Cash flow Pays from general fund for any fund and balance	Y	Y	Y	N	N	Y	Y	Y	Y
Maximum number of vendor addresses	2	2	2	2	2	2	2	2	2
Detects duplicate invoice numbers for same vendor	Y	Y	Y	Y	Y	Y	Y	Y	Y
Adds vendors on-the-fly	Y	Y	Y	Y	Y	Y	Y	Y	Y
Prints comment line on check	Y	Y	Y	Y	N	Y	N	Y	N
Customizes checks	N	Y	Y	Y	Y	Y	Y	Y	N
Records 1099 info on disk for electronic filing	N	N	N	Y	Y	N	Y	Y	Y
Has date-triggered recurring batches	N	Y	Y	N	Y	Y	Y	Y	Y
Has user-triggered recurring batches	Y	Y	Y	N	Y	Y	Y	Y	Y
Tracks recurring batch by amount paid	N	N	N	N	N	N	Y	Y	Y
Auto purge of one time vendor	Y	Y	Y	Y	Y	Y	N	Y	Y
Void reinstates invoice & reverses post	Y	Y	Y	Y	Y	Y	Y	Y	Y
Reconciles checks against bank statement	N	Y	Y	Y	Y	Y	Y	Y	N
Lists/totals outstanding/ paid checks	Y	Y	Y	Y	Y	Y	Y	Y	Y
Supports encumbrance accounting	N	Y	Y	Y	N	Y	N	Y	N
Auto. liquidation of encumbrance: Full Partial	N N	N N	N N	Y Y	N N	N N	N N	Y Y	N N

Account Payable Reports	Account-Mate	Accent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Check reconciliation	N	Y	Y	Y	Y	Y	Y	Y	Y
Cash projection by due dates	Y	Y	Y	Y	N	Y	Y	Y	Y
Vendor analysis report	Y	Y	Y	Y	Y	Y	Y	Y	Y
Check history report	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cash projection by discount cases	Y	Y	Y	N	N	Y	N	Y	N
Cash discount lost	Y	N	N	N	N	N	N	N	N
Year-to-date vendor history report	Y	Y	Y	Y	Y	Y	Y	Y	Y

Accounts Receivable

Maximum number of customers	6 digit	N	12 digits	65,535		12 digits		unlimited	12 digits
Maximum number of open transactions	unlimited	N	unlimited	unlimited		unlimited		unlimited	unlimited
Maintain date and account of last sale	N	N	Y	Y		Y		Y	Y
Maintains high balance due in past 12 months	N	N	Y	Y		Y		Y	Y

Accounts Receivable Functions	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Supports multiple cash accounts for cash receipts	Y	Y	Y	Y	Y	Y	Y	Y	Y
Has date-triggered recurring batches	N	N	N	N	N	N	Y	Y	N
Has user-triggered recurring batches	Y	Y	Y	Y	N	Y	Y	Y	Y
Tracks recurring batches by amount received	N	N	N	N	N	N	N	Y	N
Allows multiple A/R accounts	N	N	N	Y	N	N	N	Y	N
Label printing	Y	Y	Y	Y	Y	Y	Y	Y	Y
Label printing by zip code	Y	Y	Y	Y	Y	Y	Y	Y	Y
Integrates to donor tracking system: Own Third-party	 N N	 N N	 N N	 N N	 N N	 N N	 Y N	 Y Y	 N Y
generates donor acknowledgements	N	N	N	N	Y	N	Y	Y	Y
Generates donor statements	N	N	N	N	Y	N	Y	Y	N

Account Receivable Reports	Account-Mate	Axcent	Blackbaud	Cougar Mountain	Echo	Executive Data Systems	Kenrick	MOM Multiple Operations Manager	Not for Profit
Automatic (recurring)billing	Y	Y	Y	Y	Y	Y	Y	Y	Y
Limits statement printing for past due customers	Y	Y	Y	N	N	Y	Y	Y	Y
Sales analysis by customer	Y	Y	Y	Y	Y	Y	Y	Y	Y
Aging report	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cash forecast by due date	Y	Y	Y	N	N	Y	Y	Y	N
User-defined aging periods	Y	Y	Y	Y	Y	Y	Y	Y	Y
User-defined invoices	N	Y	Y	Y	Y	Y	Y	Y	Y
User-defined statements	N	Y	Y	Y	Y	Y	Y	Y	Y
Detail deposits slips for cash received	N	Y	Y	Y	Y	Y	Y	Y	Y

Budget Forecasting	Mate		Microsoft	Mountain		Pacific Data Systems	Pronoia	MICRA Multiple Operations Manager	Not for Profit
Maximum number of budget ledgers	1		1					1	
Budget ledger detail — G/L	Y		Y	N		Y		Y	
Summarize from YTD for forecast	Y		Y	N		Y		Y	
Use actual or budget for forecast	Y		Y	N		Y		Y	
Enter next year's budget this year	Y		Y	N		Y		Y	
Percentage calculations (various)	N		N	N		Y		Y	
Percentage calculations (constant)	N		N	N		N		Y	

Budget Reports

Fund worksheets	N		N	N		N		Y	
Combined reports	Y		Y	N		Y		Y	
Revenue, expense and fund position charges	N		Y	N		Y		Y	

System Requirements

Minimum recommended system	286 +	286 +	286 +	286 +	286	286 +	DOS 3.0	286 +	286
Disk space all modules	20 MB	10 MB	20 MB	10 MB	20 MB	10 MB	6MB	10 MB	5 MB
Operating systems	DOS	DOS	DOS	DOS	DOS	DOS	DOS	DOS	DOS

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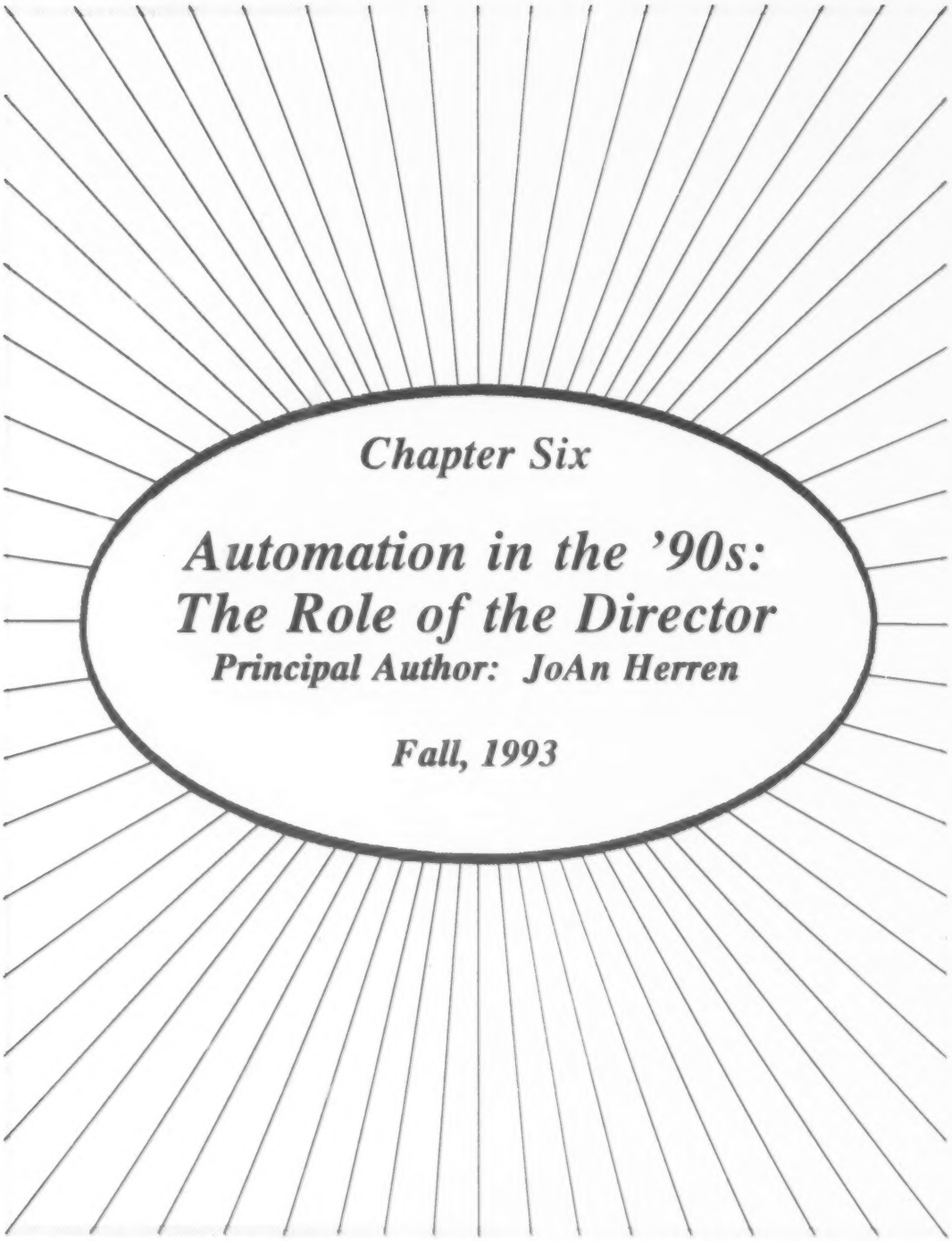


Chapter Six

Automation in the '90s: The Role of the Director

Principal Author: JoAn Herren

Fall, 1993

ACKNOWLEDGEMENTS

The author would like to acknowledge the contributions of the seven Head Start directors listed in the References section, and Anita Vestal, former director, T/TA provider and management consultant. These eight people completed a questionnaire from which much of the included material was taken. They reviewed and edited the chapter on the second draft.

Judy Brummel also served as a co-trainer for the workshop developed from this material at the National Head Start Association Conference in Indianapolis, Indiana, in the spring of 1993. Judy's no-nonsense approach to managing information technology served as an inspiration to all the participants.

Thank you.

JoAn Knight Herren
Director
October 20, 1993

OVERVIEW

Over the twenty-seven year history of Head Start, the mission remains the same, but many things have changed. The most significant of these changes are the increased accountability and reporting requirements. Documentation of services is reviewed every three years by a peer review team headed by a regional office specialist. Directors can expect that virtually every element of the program will be tracked.

This tracking is viewed by many as a double-edged sword. One of the most frequent complaints expressed by program staff is the increased amount of paperwork required. Yet, by having an effective tracking system, Head Start programs can quantify their progress, substantiate research findings, enumerate their growing number of success stories and justify their growing need for resources.

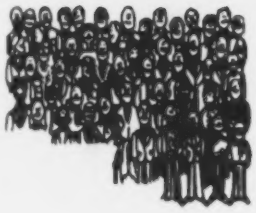
The introduction of computers some years ago held the promise of refining the data collection and reporting process, thereby providing more staff time for hands-on services. For a variety of reasons, that dream was easier to achieve for some programs than for others.

Change is *not* an unfamiliar topic to Head Start directors. This is a program that is notable for the number of additional responsibilities that are added each year in each component. So what made moving to an automated system different?

Changing environmental conditions affected the process then and continue to impact the process today. In Head Start a prime reporting requirement is the Program Information Report (PIR). In the early years of automation, the PIR changed every year. Programs never knew for certain until March or April what the questions on the new PIR would be. Establishing an effective tracking system was difficult.

In more recent years, the PIR questions have become standardized, and software programs have been developed based on these questions. However, the PIR is undergoing another significant change, which will affect tracking in 1994.

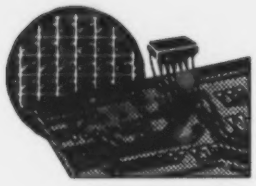
Many of the internal tracking systems used by Head Start programs are based on the PIR requirements. In some programs, the manual tracking system is well organized, accurate and effective. In other programs, the manual tracking system does not work very well. In both cases, the change to automating the system is difficult. Those who have a working system see no need to "fix" it; those who don't have a working manual system find difficulty in making an automated system work any better. In either case, there are issues of implementation surrounding the technology itself and the human tendency to resist change.



At a time of automation, many businesses allow for some productivity "down time" to make the changeover from manual to automated activities. Or, they hire experts or consultants to provide support. In Head Start the only "down time" is supposedly in the summer. A large number of Head Start programs do not employ the component coordinators for the summer, which impedes progress. In addition, with the increase in wraparound and new discretionary programs, the staff members working in the summer are often starting up new projects. Hiring of computer specialists and training support lagged behind in many programs because the regional offices that oversee the Head Start budgets were not all in agreement that automating was necessary or helpful.

Since 1985, grantees have expanded each year by at least one classroom; some grantees have doubled in size. Thus, the issues of conducting a quality community needs assessment survey, finding licensed space and hiring qualified staff often preempts the focus on automation.

Finding qualified staff is especially difficult if there are not many early childhood educators in the community. The public school systems in many states have begun to offer pre-K programs. The issue of qualified staff is further complicated by the number of teachers who leave Head Start in August and September for higher paying positions and better benefits in the school system. It is difficult to embark on or manage an effective automation system when there is high turnover of staff.



Other conditions influencing the Head Start programs' ability to automate relate to software upgrades. Software packages were developed by vendors to address the requirements of the PIR. Some programs developed their own home-grown systems. In all cases, however, the software packages available in 1985 were being updated regularly. The vendors changed packages, the language of the software changed, the equipment needed to be upgraded. It was a time of grasping for a star only to have a new constellation appear. (For further information regarding Head Start-specific software see the matrix in the worksheet/matrix section.)

Probably the most significant element affecting a program's ability to automate was, and still is, the attitude and motivation of the staff. There seem to be two camps. Those who immediately see the promise of technology have an affinity for the equipment and are eager to try it out. Other staff members see technology as a foreign and time-consuming demand, are not particularly interested in trying to deal with machines that sometimes do and sometimes do not work, and feel imposed upon without a lot of hope for any real payoff. For many learners the steep learning curve, requiring precious time for exploration of this whole new arena, may take too long.

Paul A. Strassman says in his book *The Business Value of Computers*, "It is important to shift attention from information technology to the executives who manage it; . . . measuring managerial productivity is the key to knowing how to invest in information technologies. Improve management before you systemize or automate. Automate success, not failure."

There have been many obstacles to automation in Head Start — timing, conflicting priorities, resources (money and staff) and an ever-increasing demand for program accountability. Head Start's goals of providing direct, in-depth, comprehensive services responsive to family needs are still primary. These high-priority tasks are complemented by the current need to restructure the organizational design to accommodate expansion and the addition of new programs.

The two uses of computerization are to keep track of information needed for reports and to manage that information. The most frequent use of computers in Head Start is collecting information for the PIR, and reporting it. More important for the Head Start director, however, is the management process.

Information management includes reviewing reports to assess quantity of services provided; storing proposals, standard letters, newsletters, and public relations pieces on disks for immediate revision and submission; and accessing national bulletin board systems, especially the National Head Start Bulletin Board System (see references for further information), to stay on top of recent research and materials relevant to Head Start service delivery. It means analyzing budget expenditures to not only stay on budget but to forecast the future, to provide accurate projections for added children or projects, and to keep the financial end of the program in line with the current priorities, using actual factual data in discussions with the Regional Office. With proper information management, the Head Start director is always able to call forth the needed data to respond quickly and accurately to questions from program specialists. The director can avoid the problem of making promises and agreeing to the addition of new children or projects and overloading current staff members.

Interestingly, Strassman found that businesses with managers that he classified as "over-achievers," people who made the most of information technology, showed the lowest level of spending. This confirms the premise that buying more technology does not necessarily deliver better results unless the manager makes the most of it.

It is in this setting that the key player, the Head Start director, must exhibit both leadership and managerial skills to successfully automate the program. James Kouzes and Barry Posner, in their book *The Leadership Challenge*, say, "The leader, being in the forefront, is usually the first to encounter the world outside the boundaries of the organization. The more you know about the world, the easier it is to approach it with assurance. Thus, you should learn as much as possible about the forces that affect the organization, . . . you must strive to improve your own understanding of others and build your skills; . . . effective leaders are constantly learning, constantly looking for ways to improve themselves and their organizations."

This chapter of the *Automation Manual* will focus on the role of the Head Start director in managing the process of automation. The sections that follow are:

Roles and Responsibilities

Leadership Demands

- A Look Back
- A Vision of the Future
- Personal Characteristics
- An Environment that Supports Growth

Management Requirements

- Managing the Automation Steering Committee
- Preparing the Way
- Resource Allocation
- Managing as Opposed to Operating

Conclusion

References

Bibliography

Appendix

Information gathered for this chapter came from a survey sent to select Head Start directors from around the country. Other contributors include automation and management consultants. References cited in each chapter are included in the annotated bibliography.

ROLES & RESPONSIBILITIES

The leadership and management roles of the director in the Head Start program are similar in many ways to those in other organizations. Yet, there are unique differences. *This is because Head Start is the only nationally (federally) funded comprehensive child development program in the United States.* You may not realize the implication of these words without further explanation.

Head Start is a nationally (federally) funded program. There are Head Start programs in every state and in the trust territories. Does that mean that every program is the same? Not at all. Every program is expected to become part of and reflect the fabric of the community it serves. Each program is guided by federal performance standards and guidelines, but there is great variation in structure and approach. In fact, the Head Start program may be a single purpose agency, or its grantee may be a community action program, a public school system, a YMCA, Catholic social services or a tribal council. The grantee agency will affect the workings and focus of the program. Therefore, the role of the director must address national and federal requirements (and there are many), community needs, grantee priorities, family demands, and, last but not least, the needs of the children.

Head Start is a comprehensive child development program. Comprehensive is a word not taken lightly in Head Start. It encompasses four major component areas. Early childhood education is most obvious because the centers with children are visible to all. Behind the scenes, the Parent Involvement Component and the Social Services Component address family involvement and services from the community.

The Health Component supports medical and dental assessments of each child within the first forty-five days of the school year. It provides mental health services and nutrition education.

There is a special category related to disabilities. No less than ten percent of Head Start program enrollments are children with disabilities; many programs enroll more.

The effective Head Start director has a working knowledge of each component area and often engages in some component activities. The director usually works with a middle management set of component coordinators who are the experts in their component area. This structural arrangement provides an optimum opportunity for teamwork and cross-component collaboration, since every child and family is affected by the services of each component.

In Head Start, participatory management is not only an option, it is a requirement. Mandated as a management approach to foster communication up and down the hierarchy, its greatest implication lies in the unusual powers of the Policy Council. Many managers work with advisory boards of one sort or another; Head Start directors work with the Policy Council. This group is made up of parents of children currently in the Head Start program and community representatives. It has responsibility for approving hiring and firing of staff, must sign off on the grant application package and must conduct an annual programwide self-assessment determining whether the program is or is not in compliance with the performance standards. The uniqueness of this relationship brings empowerment to the families' involvement in Head Start. It also establishes a working relationship between the director and the Policy Council that is not often reflected in other organizations. Head Start directors are required to participate in a decision-making process that acknowledges the power of the Policy Council and meets the needs of the program.

In this section we will discuss the usual elements of leadership and management and will seek to draw on the unique features of the role of the Head Start director, particularly as it relates to the automation process. For the purposes of this chapter, the definition of leadership and management will be taken from John Kotter's book *A Force for Change, How Leadership Differs from Management.*

Leadership

What constitutes good leadership has been a subject of debate for centuries. In general, we usually label leadership "good" or "effective" when it moves people to a place in which both they and those who depend upon them are genuinely better off, and when it does so without trampling on the rights of others. The function implicit in this belief is constructive or adaptive change.

Leadership within a complex organization achieves this function through three subprocesses which can briefly be described as such.

1. *Establishing direction — developing a vision of the future, often the distant future, along with strategies for producing the changes needed to achieve that vision.*

2. *Aligning people — communicating the direction to those whose cooperation may be needed so as to create coalitions that understand the vision and that are committed to its achievement.*

3. *Motivating and inspiring — keeping people moving in the right direction despite major political, bureaucratic, and resource barriers to change by appealing to very basic, but often untapped, human needs, values, and emotions.*

John P. Kotter
A Force for Change: How Leadership Differs from Management

Management

Good management brings a degree of order and consistency to key dimensions like the quality.

In the past century, literally thousands of managers, consultants, and management educators have developed and refined the processes which make up the core of modern management. These processes, summarized briefly, involve:

1. *Planning and budgeting — setting targets or goals for the future, typically for the next month or year; establishing detailed steps for achieving those targets, steps that might include timetables and guidelines; and then allocating resources to accomplish those plans.*

2. *Organizing and staffing — establishing an organizational structure and set of jobs for accomplishing plan requirements, staffing the jobs with qualified individuals, communicating the plan to those people, delegating responsibility for carrying out the plan, and establishing systems to monitor implementation.*

3. *Controlling and problem solving — monitoring results versus plan in some detail, both formally and informally, by means of reports, meetings, etc.; identifying deviations, which are usually called "problems," and then planning and organizing to solve the problems.*

John P. Kotter
A Force for Change: How Leadership Differs from Management

Leadership Demands

Moving to an automated system of record keeping is an organizational change requiring leadership skills that couple the high-touch approach (relationship building) with the high-tech demands of the system. Ten Head Start directors around the country were queried; here are some skills they said were required:

> *"Provide leadership and vision for change. Establish an environment of staff support which allows for errors and growth."* (Siroshton)

> *"See the need for and the potential applications of automation in the operation and management of Head Start delivery systems."* (Farmer)

> *"A director must have confidence in the capability of computer technology to accomplish specific tasks which are beneficial to the quality of the work within the agency. The Head Start director must exhibit enthusiasm, yet be patient with staff who have been doing a good job without automation."* (Sayre)

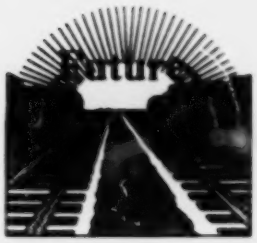
The Head Start director must exhibit leadership skills by establishing the direction for automation; by developing a vision of the future; and by designing strategies that will produce the necessary changes needed to achieve that vision. (Kotter) One Head Start director reported that her vision was to have a computer on every component coordinators' desk and one in every center; that all coordinators would be computer proficient, as would the center staff; that at weekly staff meetings current reports, including the budget, would be analyzed to monitor progress and spot problems in advance.

For this personal vision to materialize, it is important that the process contain four elements:

1) *A look back.* Before a program can move forward it must look back. (Weisbord) By honoring the culture of the past and cherishing the values of that time, change can be effected with less resistance. The critical values of the Head Start program of the past must be addressed as the program moves in the new era of automation. These strengths form the core elements of the systems analysis, which will serve as a basis for the automation plan.

202

2) *A vision of the future* — one that is shared by all stakeholders. One director said, "All component coordinators met together with me to discuss the process. An extremely critical motivator was the Head Start Policy Council chairperson, who volunteered to help with hardware and software questions. When we get discouraged, he is here; when we have troubles with our software, he helps. I cannot say enough about the motivational and support value of having someone who is interested, committed, a believer in Head Start values to the process of successful, effective automation." (Doerr)



Futuristic thinking is key in this phase. The expansion Head Start is experiencing now may be small by comparison. The future may mean massive expansions beyond our wildest dreams. What should the system look like in five years. . . ten years? Stretching the imagination is required here. Imagine this: What if the name of every Head Start-eligible child in this country were electronically entered into a national data base? What if the data base included all information on the PIR, family information and the family needs assessment? This is not far off. What if there was a national data base of Head Start programs containing the grant application package including PC cost and findings from the on-site peer review (OSPRI)? This is also on the horizon. Five years ago it was just a thought — now it is nearing reality.

With this information, Head Start programs will have data reports that can shape the course of service delivery. The regional and national offices of Head Start will be able to assess current service delivery and plan for the future.

3) *Personal characteristics* such as self-confidence. Leadership demands courage on the part of the leader. When the leader believes something can be done, everyone else is motivated. When the leader models the learning of new skills, others recognize the rightness of this learning. When the leader never wavers, others know she or he is committed. Without long-term commitment and vigilance on the part of the leader, others may lose faith that change is really going to happen.

Renewed enthusiasm must be generated by the director to sustain staff members through the long, somewhat tedious, learning and implementation cycle.

4) *An environment that supports growth.* Over and over again, responses from Head Start directors showed that establishing an environment that supports people when they need help and that is patient when there are errors is critical to success. The high-touch element of automation in Head Start requires that learning be designed to meet the individual needs of the staff member. In some offices, people are told to learn computer skills, and they take a night course and become proficient. In other offices, individuals are handed a manual; they read it and teach themselves. Some Head Start staff members will use these two techniques. Many more prefer either a mentoring approach, where someone acts as a guide on a one-to-one basis, or team training where the content is tailored to addressing Head Start information needs and where the team members serve as mentors to one another once they get back to the program.

Expecting Head Start program staff to make a high priority of learning computer skills on their own, which may mean neglecting their direct service tasks, may be futile and frustrating for all concerned. The Head Start director as leader must recognize the learning styles and preferences of the staff members, inspire them to engage in the learning process and set up an environment free of conflicting priorities and conducive to learning.

Leonard Steinbach, information center manager at the State University Health Science Center in Brooklyn, in *Communication Briefings*, says that "giving someone a software manual and saying" 'learn this program' is equivalent to handing someone a copy of a Voltaire novel and a French/English dictionary and saying 'please translate this novel.'"

Management Requirements

In Head Start, as in most organizations, the move to automation stresses all systems. The director plays a key role in managing the various aspects of the process while it is under stress. The following quotes from Head Start directors reveal their bias:

> *"I see the role of the director as making available the funding through proposals for the process to occur. Helping staff to design a system to take care of program needs and getting consultants who are knowledgeable is the key."* (Smith)

> *"The Head Start director must have a basic understanding of the automation process and promote a quality systems approach to data management."* (Brummel)

> *"To manage the Head Start program means to assess the agency's current levels of competency, facilitate the acquisition of appropriate T/TA support and staff to coordinate and administer the day-to-day operational activities."* (Johnson)

Automation is a major organizational change requiring system analysis, design and implementation plans. The requirements for automation demand the use of some "old" and some "new" skills. "Old" skills will need refinement. Specifically, they are: developing a long-range plan, staffing up to meet emerging needs, projecting equipment and training costs, assessing success and correcting mistakes. All of these skills are exercised regularly by most Head Start directors. The "new" skills involve understanding the new technology, as well as understanding the human dynamics of implementing a major system change within an organization.

The elements of management fall into four distinct categories. These are:

1) *Managing the automation steering committee.* This group may be the Head Start management team of director, component coordinators and support staff or may be more broad-based, including someone from every level of the organization and parents. Whoever serves on the steering committee, teacher aides, teachers, family service workers, health aides, component coordinators, secretaries

and Head Start director must form an energetic, learning team that will develop and sponsor the automation plan, provide input, learn what needs to be known, help make decisions, be active users, serve as mentors to others and model good practice. This group must be vested with the authority of the director to make decisions and act even if the director is not there, so that work can proceed. The key to an effective team is getting people on it who want to serve, can serve and will serve to make automation work. Time needs to be made available for this task. If this task is added onto other tasks it will suffer and will cause a dilemma for staff members, because they will be faced with conflicting priorities.

2) *Preparing the way* with a comprehensive systems analysis. By analyzing current systems and visioning future possibilities, decisions can be made more easily. This may be done in teams or with a consultant, but must be done thoroughly. The more time spent on this aspect of the automation plan, the less time spent later trying to correct problems. Skills in strategic long-range planning are needed here, because the systems analysis will clearly show what the needs are and how best to implement them. Beginning to buy anything before this work is done has fateful results. It is never too late to conduct a new systems analysis and, actually, it is wise to revisit automation needs annually (or semiannually if needed).

   Begin by conducting a management/organization characteristics assessment focusing on management and organizational characteristics that must be considered in the automation process. These assessments may be found in the Appendix of this manual and are borrowed from another chapter in the *National Data Management Project (NDMP) Automation Manual*, titled Planning for Automation.

   A solid systems analysis can set the stage for success or failure. Remember to:
   - Keep the goals simple and the aims in sharp focus.
   - Maintain financial support at the level needed.
   - Fix things that need fixing.
   - Get help fast when help is needed.

3) *Resource allocation*, using a comprehensive needs analysis serves as a guide for resource allocation. A copy of a Needs Assessment Worksheet may be found in the Appendix of this manual and is also taken from the chapter of the *National Data Management Project Automation Manual*, Planning for Automation.

- What software do you intend to use?
- What hardware do you need?
- What training will you provide?
- Who will serve as lead person?

The Head Start director and steering committee must find answers based on the analysis. Producing funding for hardware and software without addressing training and staffing will put the automation process in jeopardy. Not only must the right software be purchased for the right hardware, but resources must be allocated for training and technical assistance. Finally, lead automation responsibilities must be assigned. This assignment must not be in addition to other tasks. The time allocation for this task must be held sacrosanct to ensure that it receives the focus it requires.

Costs of computerizing that are almost never assessed include training costs and work disruption. There maybe some staff turnover as a result of introducing computers. Inefficiency must be expected during the early stages of using new software programs. Strassman says, "Adding information technology is like performing surgery on a patient who continues to work at the same time."

4) *Managing as opposed to operating*. Because Head Start programs sometimes lack a full complement of staff members, Head Start directors wear several hats. Mixing and confusing the roles of manager and operator may be the result.

The director must focus on the management tasks first:

Management	Operations
• How to organize	• How to do the actual work
• Doing the right things	• Doing things right
• Tomorrow's business	• Today's business
• Unstructured tasks	• Structured tasks
• Today's decisions for the future	• Today's decisions for today
• How decisions shape work flow	• How work flow shapes decisions

Strassman found that "The scarce resources today are people who can organize and motivate the productive capacities of their employees, and who know how to maximize capital." It is often said that if a Head Start program is successful, it is because of the management of the program. Strassman goes on to say that many organizations, and Head Start is no exception, have capable, decisive and intelligent people, but if the director leads the organization to poor overall functioning, the hard work of the staff is for naught.

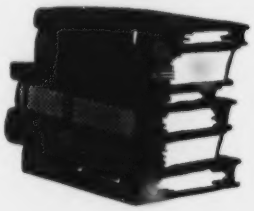
Pitfalls that Head Start directors might fall into are:

- ☞ Hiring more people to enter data into the computer instead of hiring more people to provide services to children and families.
- ☞ Making the reporting system so cumbersome that it is easier not to provide service.
- ☞ Letting equipment become an inhibitor to developing strong relationships with families.
- ☞ Causing the constituent Head Start family members who have always served in Head Start to be excluded because of their lack of automation skills.
- ☞ Casting off long-time valued employees because of their reluctance to use computer equipment.

- ☞ Using lack of interest in building computer skills to terminate employees whose performance was never adequate.

- ☞ Forgetting that service delivery, not reporting, is the most important goal of Head Start.

Avoid these pitfalls and remember these parting words:



"Don't delegate or 'relegate' automation to clerical functions/systems/staff, or that's what you'll get: a pretty sophisticated, automated clerical system." (Doerr)

"It may not be necessary for the leader to be a computer guru, but in order to fulfill both leadership and management functions, s/he cannot remain computer illiterate." (Vestal)

In computer circles the recommendation is that whatever time and dollar resources you budget for automation, plan to double them. In the case of time allocation that is most true. Always overestimate how long something will take to implement — no sense adding unrealistic expectations on top of everything else. Hardware costs are coming down and the equipment gets better and better everyday.

CONCLUSION

The role of the Head Start director as CEO is crucial in the automation process. The following checklist of responsibilities will serve as a guide.

- Plan for the future: create new, long-range goals.
- Set policy and monitor results of information technology.
- Assign responsibility for oversight of technology to an operations staff member at the middle level or component level of management.
- Make every component coordinator responsible for all information and reporting requirements related to the component.
- Place computers in each center and provide laptops for family service workers.
- Design the information collection process so that the family has a single point of contact. Once the information has been entered by the family service worker, no else need ask for that information again. Mandate interconnected systems that share a common data base.
- Assess the quality of reports and information generated by the system.
- Hold close the vision of reducing all administrative paperwork.
- Listen to or interview other directors regarding their uses of information technology.
- Plan, budget and evaluate costs.
- Evaluate staff members in terms of their skills and contributions to technology.
- Provide controls and security.
- Manage the process.
  - Prior to automating, review the current process, and refine before beginning to introduce the new system.

- Involve component coordinators in major decisions.
- Test to see if the new approach is acceptable to the component coordinators and compare results with the old system.
- Acquire only the specific technical computer skills needed to do your own work; concentrate on managing information.
- Debrief after every problem to see where things went wrong and how to avoid that problem in the future; become a good problem solver.
- Provide thorough and ongoing training.
- Specify required computer skills for all jobs.

☞ Establish and maintain good working relationships with hardware and software vendors and consultants who can provide fast, quality service.

☞ Include in each grant application the projected life-cycle costs for new equipment and costs of training.

☞ Use commercial hardware and software that have widespread commercial acceptance and quality support, unless expertise exists within the program.

☞ Establish standard commercial products for data base management, word processing, graphics, spreadsheets and communications access to minimize training expenses.

☞ Establish security measures.

☞ Provide work stations that are ergonomically acceptable.

☞ Attempt only one major task at a time.

Computer equipment by itself is only worth what you can get from it. The value lies in its management. The role of the Head Start director is the decisive element that makes the difference. Hopefully, the information in this chapter will help to foster productive uses of technology.

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- "Computers in the Classroom" (Spring 1993).
  Reviews early childhood software appropriate for Head Start classrooms.

- "Automation in the '90s — The Role of the Head Start Director" (Winter 1993).
  Describes the leadership and management tasks required of the Head Start director to ensure success in using information technology.

National Head Start Bulletin Board System (BBS). To call up, or "logon" to the BBS, you need an operational computer, a modem connected to a telephone line, and a communications software program such as Procomm. To access the BBS, dial 1-800-477-8278. If you are in the Washington, D.C. Dialing area use 301-985-7902. If you need more information, please call the systems operator, Tillie Bayless, at 1-800-688-1675.

APPENDIX

215

Needs Assessment Worksheet

Business Activity Needs

Program Size:

# of sites served ___

# of children supported ___

# of employees in the program ___

Program Services (Administrative):

# of reports generated weekly ___

# of letters written weekly ___

# of labels/mailings weekly ___

# of checks written weekly ___

Planning and Analysis (Y/N) ___

Program Services (Child/Family Demographics):

# of resources maintained (providers, materials, etc.) ___

Categories of info. maintained (name, address, phone #., etc.) ___

How often does info. change? (D, W, or M) ___

Online recordkeeping and retrieval (Y/N) ___

# of printed reports weekly ___

Application Needs

Fiscal Services:

Payroll (Y/N) ___

Tax and W-2 reports (Y/N) ___

A/R and A/P control (Y/N) ___

Budget management (Y/N) ___

Inventory management (Y/N) ___

Other requirements ___

Application Tools:

Word processing (Y/N) ___

Data base design (Y/N) ___

Spreadsheet (Y/N) ___

Other requirements ___

Child-Tracking:

Child screening (Y/N) ___

Child attendance (Y/N) ___

Child enrollment (Y/N) ___

Social services (Y/N) ___

Health services (Y/N) ___

Ed./Special services (Y/N) ___

Other requirements ___

Needs Assessment Worksheet (continued)

Hardware Needs

Memory Required for:

Word processing (Y/N) ___

Data base design (Y/N) ___

Spreadsheet (Y/N) ___

Fiscal management system (Y/N) ___

Child-tracking system (Y/N) ___

Other software systems (Y/N) ___

Storage Required for:

Word processing (# of K) ___

Data base design (# of K) ___

Spreadsheet (# of K) ___

Fiscal management system (# of K) ___

Child-tracking system (# of K) ___

Other software systems (# of K) ___

Training Needs

Hardware Training:

# of staff ___

Software Training:

# of staff ___

Fiscal software (Y/N) ___

Child-tracking software (Y/N) ___

Other software ___

Budget for Support:

$_____

Budget for Training:

$_____

Budget for Hardware:

$_____

Budget for Software:

$_____

Management/Organizational Characteristics Assessment

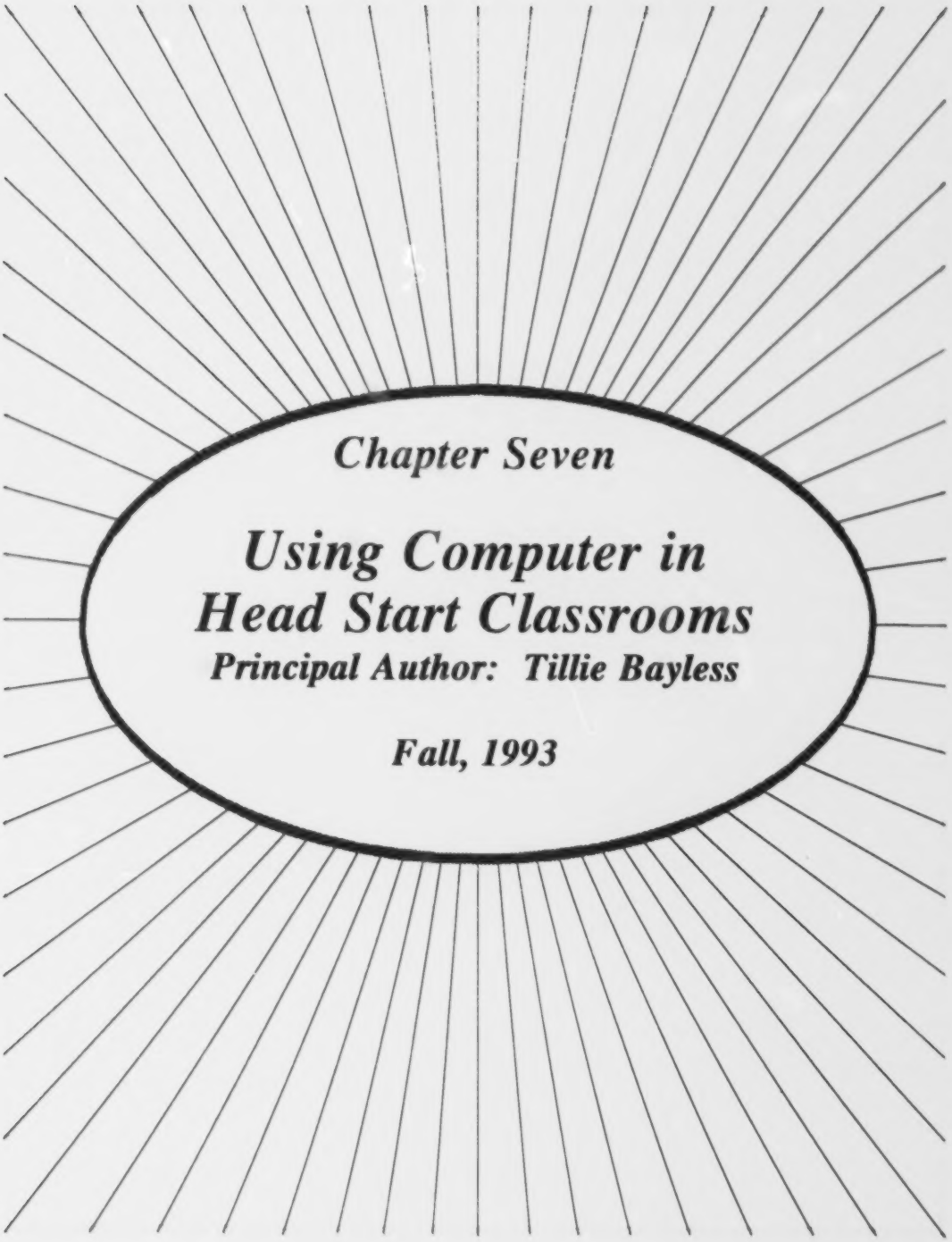
(Management Characteristics)

	AGREE	DISAGREE	DON'T KNOW
The Head Start Director and Program Component Coordinator(s) in My Program:			
1. Believe that employee participation can further the program's goals as well as the individual employee's goals.	___	___	___
2. Express respect for employees as valuable contributors to the program.	___	___	___
3. Express concern for employees' well-being and job satisfaction.	___	___	___
4. Frequently express appreciation for the contributions that employees make.	___	___	___
5. Routinely share business information with employees.	___	___	___
6. Explain program procedures and policies to employees.	___	___	___
7. Are receptive to employees' inputs to the decision-making process.	___	___	___
8. Do a good job coaching and training employees to help them improve their performance.	___	___	___
9. Expect employees to use initiative in performing their jobs.	___	___	___

Management/Organizational Characteristics Assessment

(Organizational Characteristics)

	AGREE	DISAGREE	DON'T KNOW
In My Program:			
1. People can be rewarded and recognized for teamwork.	___	___	___
2. Measurement data exist to describe important performance results.	___	___	___
3. Measurement data are regularly shared with employees to let them know how they are doing.	___	___	___
4. Communication methods exist that allow for a two-way flow of information between management and employees.	___	___	___
5. Departments cooperate to achieve common goals.	___	___	___
6. Personnel policies and practices are based on the assumption that employees want to do a good job.	___	___	___
7. Time, money and other program resources are spent on training and development of employees.	___	___	___



Chapter Seven

Using Computer in Head Start Classrooms

Principal Author: Tillie Bayless

Fall, 1993

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OVERVIEW

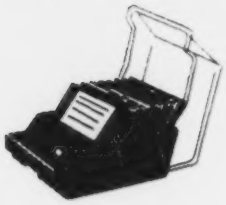
Much of what we do today involves computers. Computers control telephone systems, traffic lights, and radio and television stations. They are used to run trains and check out library books. The Automatic Teller Machine is a computer. In some grocery stores, the cashier can scan grocery prices on a computer, and the customer can use another to pay for them.

As educators and parents, we sense the trend of the technological age ahead and try to understand the impact of computers on the lives of the young children in Head Start. Defining the *purpose* of experiences with computers is an essential first step for any Head Start program considering the use of computers in classrooms.

Each Head Start program is different, designed to meet the needs of its particular community. Decisions about curriculum to help children grow "socially, intellectually, physically, and emotionally, in a manner appropriate to their age and development" (*Head Start Program Performance Standards, p. 4*), must be based on the local Head Start program's own philosophy. When the curriculum includes classroom activities that require the use of computers, the specific details of these activities must be explained in the Education Component Plan, developed by staff and parents, and consistent with Head Start Program Performance Standards.

Different materials in a Head Start classroom provide different learning opportunities. Blocks, for example, provide a wealth of opportunities for children to experience size, shape, balance, planning, counting, social interaction, and large and small muscle development. Easel painting provide young Head Start children with the opportunity to explore with paint, chalk and other media. Puzzles, although less open-ended in their use, offer different opportunities for learning. Books offer the opportunity to integrate the direct, sensory-motor learning that comes from experiences with blocks, puzzles, and other concrete materials with an understanding of symbolic representation through pictures and written words. No Head Start classroom would be complete without these materials.

Software: The First Decision



When the planned curriculum includes specific classroom activities that require a computer, software* selection is the next step. *It is the software that allows us to use the computer*, so selecting the software first will help us select the appropriate hardware.

***Hardware, software - what are they?**

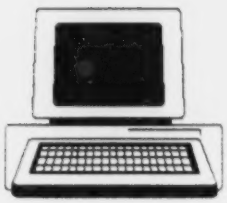
A computer by itself is pretty useless. To use a computer, we need a monitor so we can see what is happening, and other attachments (such as a keyboard, joystick, mouse, powerpad, or touchpad) to operate it. A printer is necessary to obtain a "hard" (paper) copy of what's been produced on the computer. For young children or other users who do not read, a voice synthesizer can be attached. These items of equipment are referred to as *hardware*.

However, it is not the hardware (computers, keyboards, powerpads, etc) that produces images on the screen or monitor; it's the *software*. We use the keyboards, mouse, powerpads, etc. to interact with the *software*. Remember, **it's the software that lets us use the computer.** (For more about *hardware*, please see p. 11).

The best way to assess the suitability of software for use with children is to preview the software, just as teachers read books in advance to check their suitability for the children in their classroom. While the opinions of others are often informative, software appropriate for one Head Start program may **not** be suitable for another.

Some of us remember when we could go to a booth in a music store and listen to a record we were considering purchasing. Many software publishers and vendors provide a similar opportunity. Some give out "demos," abbreviated versions of the software package used for demonstration purposes. Often vendors will loan the actual software for a period of time. Software packages can also be previewed at most computer stores. Take the opportunity to play with software programs. Know what you are choosing! The importance of selecting **appropriate software** cannot be stressed too often.

What Is Appropriate?



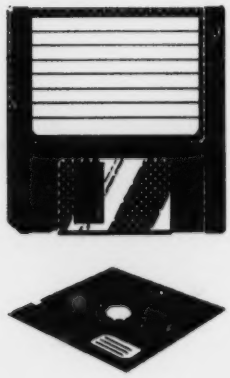
The suitability of a software package depends partly on the program's goals for the children. If the goals include skills such as making choices, experimenting, and problem solving, the software selected must provide opportunities for the development of these skills. The suitability of the software also depends partly on the experience of the children. Independent children who are confident about making choices, experimenting, and even about making mistakes need different software than children who are accustomed to a great deal of control and direction in their lives.

Suitable software complements the other materials used in the classroom, and provides different opportunities for children while using familiar images. Like the other materials in the Head Start classroom, the software should encourage the children's innate creativity and desire to experiment.

Many of the early software packages were accurately described as electronically animated workbooks. (And we know that workbooks are inappropriate for use with young children in Head Start classrooms.) They allowed no creativity; there was often only one right answer. Moreover, some of the early software did not allow for child control or foster socialization among the children. Some also gave demeaning responses to "incorrect" answers. An adult was often needed to read and explain the instructions to the children. Furthermore, much of the early software was neither multiculturally sensitive nor free of bias. For these reasons, many proponents of high quality early childhood education challenged the suitability of computers for use with young children. However, since those early days the fields of both early childhood education and software development have made clear advances in their knowledge, experience, and sophistication. What really matters is "the quality of the software, the amount of time it is used, and the way in which it is used" (Char 1990, 5).

Head Start employees who are responsible for selecting software must become good evaluators of software quality, able to assess its suitability for the children in their program.

Criteria for Choosing Software



The purpose of this chapter is to provide information on selecting software appropriate for use with young children in Head Start. To this end, a matrix of *criteria for selecting software for Head Start classrooms* has been compiled. Many other criteria for evaluating software have been published. This matrix, however, highlights issues of special interest to Head Start.

> Several software publishers have evaluated their software using this matrix. (See p. 18.) A blank matrix is also included for your use. (See p. 41.) If your program acquired computers before selecting software, the matrix will be a valuable tool for determining whether a particular software program will operate on your computer.

Multicultural Representations

Many nationalities, cultures, and ethnic groups are represented in Head Start classrooms. It is particularly important that software used in Head Start classrooms be culturally sensitive and free of bias. We can examine software to be sure that it is free of bias just as critically as we examine books, posters, and puzzles. (A good resource on this topic is *The Anti-Bias Curriculum*, by Louise Derman-Sparks.)

When cultural groups are represented in software programs, the way they are represented becomes important. Are different nationalities and ethnic groups portrayed as the children see them every day? When animal or cartoon characters are used, do they really avoid stereotypes? Also, does the software portray characters in nonstereotypical activities?

Software that uses the Spanish language is appropriate in classrooms with children who speak Spanish. Some software packages are available in languages other than English and Spanish. The vendor or publisher can supply this information.

Problem-Solving Opportunities

Appropriate software provides opportunities for children to actively engage in trial-and-error exploration. Questions with more than one "right" answer encourage children to explore alternative responses. There should be no discouraging beeps, buzzes, or horns to denote an incorrect answer.

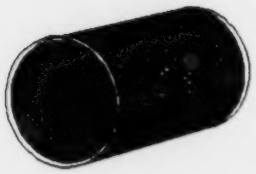
Each activity in the software program should have varying degrees of complexity. Some software packages will adjust automatically to the skill level of the child; some packages need to be preset by an adult.

Developmental Appropriateness

To be suitable, software must be developmentally appropriate, interesting, and understandable. As Gottfried states, (1985, 85) a child's intrinsic motivation is enhanced when the "child experiences himself or herself as a causal agent of the outcomes in the environment." Child control of the software is very important. The software must put the child in the "driver's seat" (Haugland 1990).

Ask yourself first, does the child control the pace and sequence of the program? Who causes events to happen? How difficult is it to access the program and get started? Early childhood software that is developmentally appropriate begins with one or two simple, clear commands (Haugland, Davidson, 1990). Some programs put the user in the driver's seat from the opening screen. In these programs, children can move the cursor around the screen and activate the software immediately. Almost every possible interaction with the software produces a result.

The instructions to operate the software should make good use of icons, voice, and screen prompts, because young children are not good readers. (When software requires reading, an adult must be present for the child to continue the activity.) Look at how the software prompts the user to make a choice. Is each step clear? Can a child exit the program easily?

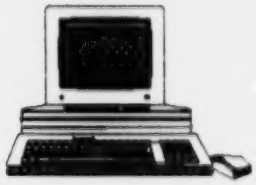


Although many three and even some two-year-old children can successfully manipulate a mouse (often with more dexterity than adults), other children may be more comfortable using a powerpad, a touch window, or a joystick. Will the software you are considering support some or all of these peripherals?

Children as young as three have been found to be quite adept at using a keyboard. The more keys that are required, however, the more difficult and frustrating it is for new computer users to operate a program. Therefore, it is important to know how many keys are needed to operate the software.

More important, perhaps, is knowing what happens when a child accidently presses the wrong key. Children become frustrated when pressing the wrong key causes the computer to lock, a demeaning sound to occur, or the current screen to disappear. Look for software programs that *prompt* the user to select the correct key and that wait patiently until the child makes this choice.

It may be important, in the beginning, for all the software you select to use the same function keys. For many programs the <ENTER> key tells the computer a choice has been made, and the <spacebar> moves the cursor through the menu. Children will expect these keys to work the same way in all software and will be able to use the software independently when they do. Once children learn that keys can have different functions, software that uses different keys can be introduced. When specific keys are to be used to activate the software, identifying those keys on the keyboard is helpful to the young user. Some publishers provide markers for the keyboard to assist children in making the correct choice.



You should also consider whether the program is expandable. Are several different developmental levels offered? Further, does the publisher include suggestions on how to integrate the software into other daily classroom activities?

Independent Play

Independent learners are involved in learning either alone or in informal small groups that afford them the opportunity to spontaneously initiate activities as they implement their own ideas and those of their friends. Good early childhood software can provide such opportunities for young children.

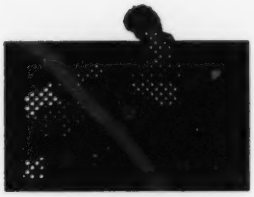
At any particular moment, an early childhood teacher who is listening to several children at one time, keeping her eye on the room as a whole, and pondering her next activity may not hear every child's questions. Computers, in contrast, have ever-attentive "one-track-minds." Look for software that maximizes the "responsiveness" and "patience" of the computer to support the user's developing independence. To learn independently, a child must spend a minimal amount of time passively sitting, listening, and waiting. Suitable software responds quickly to the push of a key or the click of the mouse. The software will also wait for the user's input and may even provide a hint as to what key to type, or where to click the mouse, and then wait for the user's command.

Some software enables children to explore situations for which they lack the usual prerequisites. For instance, there are programs that allow children to compose music without understanding the complex system of musical notation and to create stories without mastering the skill of writing. Look for software that supports independence and empowers the user.

The opportunity to practice new learning is important for the development of independence. As children practice their new learning, they are "constructing their own knowledge," as Piaget describes it (Ginsberg and Opper 1979). Appropriate early childhood software provides a variety of open-ended learning activities and allows for repeated trial-and-error exploration.

For this reason, it is important to know how a software program deals with errors. Children are not encouraged to continue to explore and investigate when they encounter a buzzer, a sad face, or a head shaking "no"!

Cooperative Play



Researchers have found that a child seldom uses a computer alone. Other children wander over, look at the screen, sit on a nearby chair, offer suggestions, and contribute to the activity. Some software programs provide opportunities for two or more children to play games. Vendors have developed dual powerpads that are connected to the computer the same way that a mouse is. Children can operate the software together, taking turns.

> Many Head Start programs have developed policies that discourage gun play among the children. Software that portrays aggressive, violent activities is clearly inappropriate for these programs.

Children are motivated to talk about activities that are meaningful and important to them. They often use more words and an even richer vocabulary when discussing their computer activities with their friends. It is not unusual to observe children talking about what they - or some other children - are doing on the computer.

Many researchers have recorded conversations and activities among children at the computer. Davidson reports the activity of four-year-old Sarah who was using the **"Baldheaded Chicken"** in **Explore a Story** (a software program that allows children to "pick-up" and move any of the objects on the screen, creating stories and dramatic play.)

> First, Sarah uses the cursor to remove the cracked egg shells from around the chicks. Then she moves each of the chicks to the mother. The mother walks around checking on them. The chicks are thirsty, but the pond looks too deep for the little chicks. Sarah picks up a piece of water and moves it to a new spot to make a smaller drinking area. The Momma and chicks all walk over for a drink. Sarah decides that the family needs a Daddy chicken. She goes up into a menu to get another chicken. The Mom, Dad and chicks play by the pond, fly up into the trees, go to visit the sun, come back to the flowers at bedtime to go to sleep. Sarah narrates the events of the story as she works and moves the objects on the screen. Jesse joins Sarah at the computer and adds suggestions to the unfolding story (Davidson 1989, 249 -252).

Computer activities often encourage young children to tell their stories to an adult who then types using a word processor and prints them. Printers make it easy to get multiple copies of a picture or story, and to make books of children's stories for the Book/Library Corner. Sometimes children do their own typing, and then "read" their story to others, an important pre-reading/pre-writing activity. Using the keyboard or powerpad alphabet tablet is often easier and faster for young children than handwriting the letters, and sometimes their creativity and story telling is enhanced.

Some software packages use a "voice" to read pictures, icons, or words, or to ask questions of the user. Voice capability takes up a great deal of space on the hard disk. Therefore, in an effort to save disk space, some programs employ short, but grammatically incorrect, statements. Because young children repeat what they hear, it is important to select software that "speaks" only with grammatically correct, appropriate language.

Generalizability of Learned Skills

Good early childhood curricula may be limited in complexity and difficulty to accommodate the developmental age of the children, but certainly need not be limited in the kind of experiences and ideas presented. The instructional content of any software selected, however, should be relevant to the curriculum of the classroom and to the everyday lives of the children.

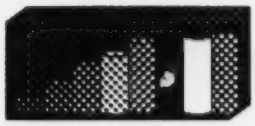
Special Needs

Computers can be a very effective learning tool for children with disabilities. Special peripherals can extend a child's abilities. Technology is available that can be activated by voice, headpointer, mouth stick, or by other parts of the body such as the knee, cheek, or elbow. There are large size monitors for children with impaired vision, and attachments that will "talk" for a mute child. For these users, find out which attachments are supported by the software.

Computers are better suited for some children with disabilities because they present information sequentially, in small bits; they offer repetition, individualized instruction, and, of course, immediate feedback. Children with short attention spans are attracted by the graphics, colors, and immediate feedback of the computer and can be busily engaged for longer periods than usual (Dodge et al, 1992).

Computers also provide some shy, socially inept children with a way to shine. Head Start teachers state that children's skill on the computer promotes peer acceptance and appreciation. These children are also apt to be more engaged socially with their classmates when sharing their expertise at the computer.

Sound Design



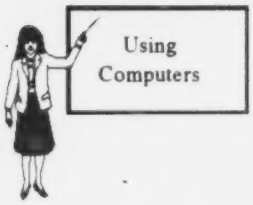
Look for software that is logically organized, progressing from the simple to the more complex. Also, examine the use of graphics, animation, colors and voice. The graphics should be realistic, recognizable by the children, movable, and in some instances, animated. How animation occurs is important, however. Is the animation part of the activity, or is it meaningless?

Examine whether the user can escape back to the main menu with ease, without completing the entire program first. Check also to see if a portion of the activity can be skipped. Once begun, does a segment have to be seen through to the end?

The types of keyboard alternatives that may be used with a given software program are important. Can the software be operated with just the keyboard or a mouse? Can you use other attachments with the software for a child with special needs if necessary? Will the software support a touch window?

Finally, consider upgrades. Publishers are constantly refining their products, removing "bugs," and developing more practical ways to operate the software. Find out the vendor's policy about providing upgrades to their current customers.

Training Staff Members



Staff members who are comfortable exploring with computers will transfer this feeling to children. Therefore, training for staff members on both the hardware and the software is essential.

Computers have a mystique of their own. Some of us are frightened by this aura; others are challenged. When planning computer training, consider the attitudes, motivation, and prior knowledge of the trainees.

Find a knowledgeable, enthusiastic trainer, who will dispel the myths about computers and encourage staff members to learn by hands on playing with them.

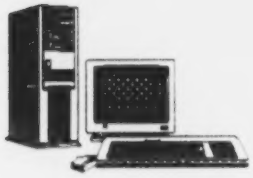
Learning to use a computer reinforces the knowledge that we adults, like young children, can learn through play. We do not learn about computers and software just by reading the manuals. We learn by trying different keys/commands, by making mistakes and then by using the manuals to find out why we made the mistakes and how to correct them.

Fortunately, training is available to Head Start programs. The National Data Management staff is available to provide training at Regional and National Head Start conferences. Computers are available for hands-on training in a group or for individuals to drop in and practice using various software packages. Your regional TASC center also has a list of available consultants who can visit your program (or a cluster of programs) to provide training on classroom software and hardware.

Finally, some vendors provide training or demonstration disks for use by prospective purchasers. Many vendors exhibit their products at national conferences such as those sponsored by the National Head Start Association (NHSA), the National Association for the Education of Young Children (NAEYC), and the Southern Association for Young Children. Vendors are prepared to offer demonstrations and provide hands on opportunities to explore their software and hardware at regional training opportunities. Some vendors may visit local programs to demonstrate their products.

Many software publishers provide good support for users. Be sure to know the publisher/vendor's policy on technical support for users (kind, amount and cost) before purchasing the software. Make sure it will meet your needs. Software that you can't find out how to use will only collect dust on the shelf, no matter how appropriate it may be to your curriculum.

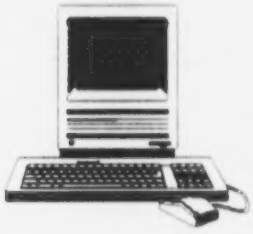
Hardware: The Details



In computer talk, the term hardware refers to objects that you can touch such as the computer itself, disks, disk drives, display screens, keyboards, printers, mouse, joystick. To operate early childhood software in your Head Start program you will need, at minimum:

- a personal computer with a hard disk and video card
- a keyboard
- a mouse
- a video system (monitor/screen)
- a printer
- necessary connecting cables

The Computer

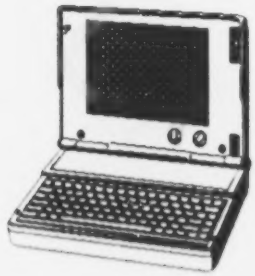


There are two major types of computers: Macintosh computers (manufactured by Apple) and the so-called personal computer (manufactured by IBM and many other companies).

What kind of a computer should you buy? Your software selection will dictate the kind of computer features, and peripherals you need. (Some software is written only for either an IBM or a Macintosh.) Make a list of these needs. Write down how much memory is needed, the type of monitor required, any other peripherals that are needed, i.e., mouse, joystick, powerpad(s), or touchwindow.

Since many Head Start programs use IBM PC compatibles, most of the discussion in this section addresses this computer. However, some excellent early childhood software runs on the Macintosh computer.

IBM PC



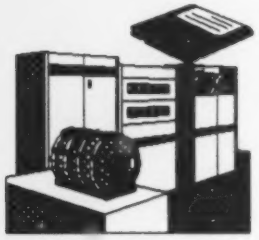
IBM PC compatibles are often classified according to their central processing units (CPU). The higher the numeric name (8088, 80286, 80386, 80486), the greater the power. The first IBM PCs were 8088s. They are relatively slow, unable to run most of the new software, and difficult to upgrade. Many came without hard disks.

The 80286 - nicknamed the 286 -is faster than the 8088, but still slow by today's standards. Because of their age, both these computers are often offered free to Head Start programs. Bear in mind that these computers may not be able to operate most of today's - or tomorrow's - more sophisticated software.

The 386 is significantly faster than the 8088, and is able to reproduce sound and digitized voices more naturally. These machines also are capable of displaying colors and graphics quickly, a valuable feature for a child-friendly computer.

The 80486 out-performs the 386 in speed, graphics display, and production of sound. If you are buying a new computer, there is now relatively little difference in cost between a 386 and a 486; therefore the 486 might be your best investment.

Disks: Electronic Filing Cabinets

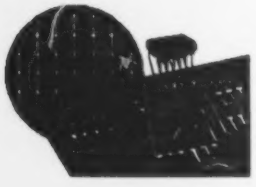


Disks are the computer's filing cabinet, the place where information is stored. Floppy disks come in two sizes--large (5.25 inch) and small (3.5 inch). They are inserted into the disk drives on the computer. Hard disks are installed inside the computer and come with the computer. Software purchased on floppy disks can be transferred to the hard disk and will run more efficiently that way.

Hard disks are measured in megabytes (MB) and come in sizes ranging from 10 MB to over 1000 MB. The more megabytes on your hard disk, the more software you can make available to your children. One hundred to three hundred MB is a reasonable amount of hard-disk memory for a new computer.

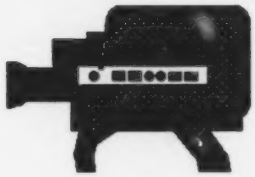
Many publishers are now producing children's software on CD-ROM disks. CD-ROM players are another peripheral that can be added to a computer. (You may already have a CD player in your home; a CD-ROM disk plays programs instead of music.) Although a CD-ROM attachment costs approximately $400, a single CD-ROM disk can hold more information than hundreds of floppy disks. You may be wise to purchase a computer that will support a CD-ROM player.

Memory: RAM



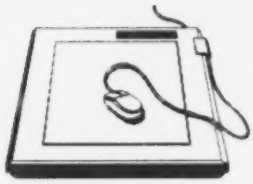
Random Access Memory (RAM) refers to the amount of information that can be readily available for instant use by the central processing unit (CPU). The more RAM, the faster programs will operate. Two megabytes of RAM is standard today. Fortunately, most computers are able to add megabytes of memory inexpensively, as needed. As you shop, check to see whether additional RAM can be added to the computer you're considering, and how much it would cost.

Video: It's All in the Picture



Good color and graphics enhance the value of early childhood software, so you'll probably want a high-resolution color monitor. Video components (adapter cards, video software, and monitors) are constantly improving and changing. Consult with both the publisher of your software and your hardware retailer regarding the components that are best suited to your needs and and to your budget.

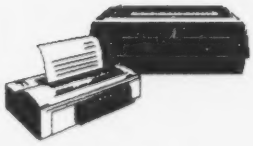
Keyboards, Mice, Joysticks, Powerpads...



Keyboards, mice, or powerpads are the hardware elements we use to direct the computer. Although young children may not use keyboards, they are necessary to set up and begin many software programs. Most children will interact with the computer with a simple directional device, such as a mouse, joystick, or powerpad. Mice come in small sizes to accommodate children's hands. Logitech makes a KidzMouse that looks like a real mouse with its blue ear buttons and blue cord tail.

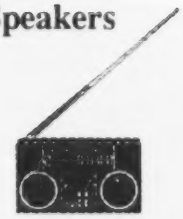
When you know which peripherals you will need for your purposes, make sure that the computer you are planning to use is equipped with the necessary connecting ports to add them.

Printers



There is a tremendous variety of printers on the market -laser, dot-matrix, ink-jets. The dot-matrix printer will probably fulfill all your early childhood needs and offers color at a much lower cost than do other printers.

Speakers



Most IBM PC compatibles have a built-in speaker. However, a sound enhancer will produce much higher quality sound effects. (Some of these enhancers produce a sound much like the human voice.) Depending on their features, the cost of sound enhancers ranges from less than $50 to more than $300.

Where to Put the Computers In Your Classroom

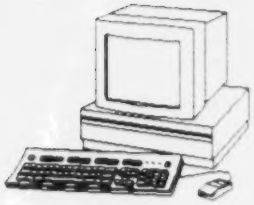
Your computers should be placed where it is both quiet and away from hazards, maybe somewhere near your manipulative area and your book corner. Placing a special mat under the computer will reduce the static electricity sometimes caused by rugs. Remember, too, that magnets will erase all the information on your disk. Never, never use them around a computer.

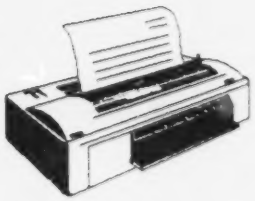
When there are two computers for a classroom (highly recommended), placing them at right angles to each other allows the children to see both screens. You will want to place a chair, so an the adult can observe and chat with users at both computers. Allow sufficient space for two or three children to cluster around each computer.

Usually no special furniture is necessary for the computers, but you do need room for the computer, monitor, peripherals, and or printer on the tables/desks. Placing the printer between the two computers allows it to be used by both machines. Remember that adults are much taller than young children. Be sure and check that the height of the monitor is appropriate for the children.

A surge protector both protects the computer during power failures and provides six or more outlets for your hardware. Your entire computer system can be turned on and off at the switch on the surge protector. However, it is not necessary to turn the machine off and on between users.

Introducing Children to the Computer





Children need to know how and where to turn on the computer, monitor, and printer. Signs or labels telling them where to turn the computer on facilitates their independent use of the computer. Simple signs at switches help to locate the on/off switch and to know which one to use first.

Placing different colored labels at the beginning of each row of the keyboard can help children find keys in the yellow, red or blue row. Similarly, color coding the keys used most often in the software will help the children find them.

Children also need to know how to access particular software programs on the disk. When the children's programs are on the hard disk, they need to know how to bring the menu screen or icons into view. Your menu screen could look like this:

Main Menu

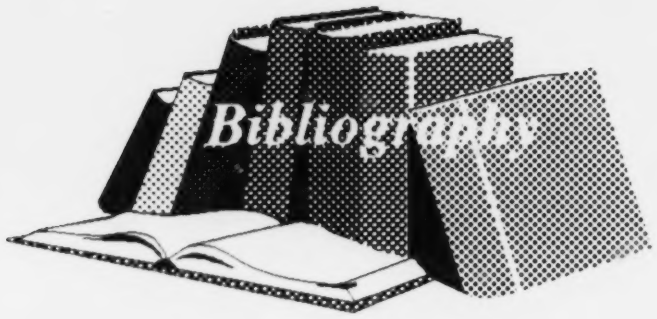
1. Creative Games
2. Kidsware
3. Kids Time
4. Millie's Math House
5. Mixed-Up Mother Goose
6. Playroom
7. Story Club

Children quickly learn how to use the arrow keys or mouse to highlight and select their choice.

Some of the newer computers come with DOS programs that provide icon screens. Each software program on the computer has its own icon. Children can then select the software using either the arrow keys or mouse.

Conclusion

Computers can be an exciting learning experience for young children in Head Start. Each Head Start program must determine its own objectives and budgetary limitations. As noted earlier, computers do not replace blocks, easels, books, and other necessary educational equipment. However, when funds allow, computers can offer children an opportunity to explore this technological wonder, share these explorations with friends, and increase their self-concept as they solve their way to becoming competent, in control craftworkers.



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MATRIX

CRITERIA FOR SELECTION OF SOFTWARE FOR HEAD START CLASSROOMS

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
Multicultural Representations													
is free of negative/inappropriate cultural bias and stereotypes: *doesnot portray children in stereotypical activities, i.e., boys using blocks, girls in house area, dads as mail carriers, moms in the kitchen.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
presents multicultural simulations of different people and social situations: *portrays different nationalities and ethnic groups as they are seen in every day life by children, i.e., portrays Chinese-Americans, not Chinese pulling a rickshaw or in the rice fields; portrays Black-Americans as business men and women; portrays Native-Americans as they dress today, not as they might dress for a special festival.*	NA	Y	NA	NA	Y	Y	NA	NA	NA	NA	NA	NA	Y
uses simulations that are representative of the multicultural diversity among HS children: *depictions include Black Americans, Native Americans, Asian Americans, and Hispanic people.*	NA	Y	NA	NA	Y	Y	NA	NA	NA	NA	NA	NA	Y
is available in other languages (S=Spanish; J= Japanese; O= Other).								S		S, J			Y

Code: Y= Yes; N = No; NA = Not Applicable

CRITERIA FOR SELECTION OF SOFTWARE FOR HEAD START CLASSROOMS

Software																
Creative Games	Early Vocabulary Development Series	Talking Nouns, Talking Verbs	Early Emerging Rules Series	First Categories	Language Activ. of Daily Living Series	Micro-LADS	Words and Concepts Series	Concentrate! Words & Concpts Series	Following Directions: Left and Right	Follow Dir: One/Two Level Commands	Kids Time	Reading Maze	Kids Math	Alphabet Blocks	Mixed-Up Mother Goose	Mixed-Up Fairy Tales
Multicultural Representations																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y
NA	Y	Y	Y	NA	Y	Y	NA	NA	NA	NA	NA	Y	NA	NA	Y	Y
NA	Y	Y	Y	NA	Y	Y	NA	NA	NA	NA	NA	Y	NA	NA	Y	Y
	S											S		N	N	N

241

Code: Y = Yes; N = No; NA = Not Applicable *Spanish version soon

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
Problem Solving Opportunities													
provides trial and error strategies for exploring and problem solving: *does not ask for "correct" solutions that conform to adult standards; permits children to explore alternative solutions, try different responses; graphics and/or sound effects do not denote "wrong" answers.*	Y	Y	Y	Y	Y	Y	Y	NA	Y	NA	NA	NA	Y
has expanding complexity: *(1) has varying levels of difficulty and spontaneously adjusts to the child's level of ability; or (2) allows for an adult to adjust the level of challenge.*	1, 2	1, 2	1	2	1	1	1, 2	1	1	1	1	1	2
provides children with feedback on cause and effect relationships: *helps the children to know that their action(s) caused the response.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Developmental Appropriateness													
presents developmentally appropriate concepts: *presents activity/concepts appropriate and of interest to children 3 - 4 years of age.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
appropriate for non-readers/beginning readers: (1) does not require reading, (2) when reading is required, simple icons assist understanding or, (3) the computer "voices" the words as they appear on the screen.	1, 2, 3	1, 2, 3	1	1	1, 3	1, 3	1, 3	1	1	3	1	1	2, 3

Code: Y= Yes; N = No; NA = Not Applicable

Software																
Creative Games	Early Vocabulary Development Series	Talking Nouns, Talking Verbs	Early Emerging Rules Series	First Categories	Language Activ. of Daily Living Series	Micro-LADS	Words and Concepts Series	Concentrate! Words & Concepts Series	Following Directions: Left and Right	Follow Dir: One/Two Level Commands	Kids Time	Reading Maze	Kids Math	Alphabet Blocks	Mixed-Up Mother Goose	Mixed-Up Fairy Tales
Problem Solving Opportunities																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	2	2	2	2	2	1, 2	1, 2	1, 2	1, 2	1, 2	2	1	1	1, 2	NA	NA
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Developmental Appropriateness																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	6-7 Yrs old
1	1	1	1	1	1	1	1	1	1	1	1, 3	1, 2, 3	2	1,	1, 2	1, 2

Code: Y = Yes; N = No; NA = Not Applicable

*Spanish version soon

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
provides opportunities for teaching receptive and expressive communication skills: *(1) allows for/encourages the exchange of ideas among children; (2) enhances experiences through word processing and related language stimulating activities.*	1, 2, 3	1, 2, 3	1	1	1	1	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2
contains colorful, uncluttered, realistic graphics, animation: *graphics that are realistic, identifiable by children.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
loads & runs quickly: *children can easily insert disk and load software or software is on hard drive; adult help/supervision is not needed.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
has corresponding sound effects: *music and other sound effects are pleasing, to children; and (1) the sound effects are realistic; or (2) children can insert their own sound effects.*	1, 2	1, 2	1, 2	1, 2	1	1	1	1, 2	1	1	1, 2	1	1, 2
Independent Play													
encourages discovery-oriented learning: *bases activities on the experiences, knowledge, and interests of 3 and 4 year - old children. Children's exploration of the software results in learning and expansion of ideas.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
empowers children: *is easily controlled by the user, who can control the pace and sequence of the program.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
presents open-ended learning activities that permit individual choice: *the child can select from a variety of activities.*	Y	Y	Y	Y			Y	Y	Y	Y	Y	Y	Y

Code: Y= Yes; N = No; NA = Not Applicable

241

Software																
Creative Games	Early Vocabulary Development Series	Talking Nouns, Talking Verbs	Early Emerging Rules Series	First Categories	Language Activ. of Daily Living Series	Micro-LADS	Words and Concepts Series	Concentrate! Words & Concepts Series	Following Directions: Left and Right	Follow Dir: One/Two Level Commands	Kids Time	Reading Maze	Kids Math	Alphabet Blocks	Mixed-Up Mother Goose	Mixed-Up Fairy Tales
1	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1, 2	1	1	1, 2	1, 2	1, 2
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	some assistance needed		
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Independent Play																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	6-7 Yrs old
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Code: Y= Yes; N = No; NA = Not Applicable

248

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
Cooperative Play													
provides interaction: *provides an opportunity for children to take turns and to play cooperatively.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
encourages children to interact socially and to role play different social situations: *encourages role play and conversation.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
presents learning activities that help young children develop appropriate communication skills: *uses grammatically correct "spoken" and written language.*	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	NA	NA	Y
Generalizability of Learned Skills													
contains instructional content relevant to curriculum usually found in early childhood classrooms.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Special Needs Children													
is appropriate/can be adjusted for children with special needs.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sound Design													
is logically organized: *progresses from simple to complex, from concrete to abstract.*	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
includes multisensory technical capabilities (e.g., animation, colors, voice, graphics, music).	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
provides keyboard alternatives (e.g., mouse, joystick, powerpad(s), touch window).	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Code: Y= Yes; N = No; NA = Not Applicable

Software																
Creative Games	Early Vocabulary Development Series	Talking Nouns, Talking Verbs	Early Emerging Rules Series	First Categories	Language Activ. of Daily Living Series	Micro-LADS	Words and Concepts Series	Concentratel Words & Concepts Series	Following Directions: Left and Right	Follow Dir: One/Two Level Commands	Kids Time	Reading Maze	Kids Math	Alphabet Blocks	Mixed-Up Mother Goose	Mixed-Up Fairy Tales
Cooperative Play																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Y	Y	N	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Generalizability of Learned Skills																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Special Needs Children																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Touch Window			Y	Y	Y
Sound Design																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Code: Y = Yes; N = No; NA = Not Applicable

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
includes teacher support (documentation, classroom integration guides).	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y
Hardware Requirements													
operates on IBM = I; MAC = M; BOTH = B.	B	M	B	B	M/W:2e emulation card		B	B	B	B	B	I	I
operates on a Network.	Y	Y						Y					Y
requires memory: 1 = Dos 640K; 2 = MAC 2 - 4MB; 3 = 128K Apple.	1, 2	*	1, 2	1, 2	3	3	1, 2						1
supports printers.													
recommends disk storage space.													12 MB
Other Issues													
includes operating instructions and teach teaching that manuals can be understood by persons unfamiliar with computers.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
has technical assistance available.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
includes training costs.	NA	Inc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Y
can meet space requirements in most early childhood classrooms.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
requires special furniture.	N	N	N	N	N	N	N	N	N	N	N	N	N

251

Code: Y = Yes; N = No; NA = Not Applicable

Software																
Creative Games	Early Vocabulary Development Series	Talking Nouns, Talking Verbs	Early Emerging Rules Series	First Categories	Language Activ. of Daily Living Series	Micro-LADS	Words and Concepts Series	Concentrate! Words & Concepts Series	Following Directions: Left and Right	Follow Dir: One/Two Level Commands	Kids Time	Reading Maze	Kids Math	Alphabet Blocks	Mixed-Up Mother Goose	Mixed-Up Fairy Tales
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hardware Requirements																
I	I	I	I	I	B	1	I	1	1	1	1	1	1	B	I	I
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
1	1	1	1	1	1, 2	1	1	1	1	1	1 MB	1 MB	1 MB			
All	All	All	All	All	All	All	All	All	All	All	B/W	All	NA	N	N	N
1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB	1 MB			
Other Issues																
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
											NA	NA	NA			
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Code: Y = Yes; N = No; NA = Not Applicable

Selection Criteria	Software												
	Davidson's Kid Works 2	Story Club	Millie's Math House	Kid Desk	Vocabulary Skill Builder Series	Early Concepts Skill Builders	Bailey's Book House	Kidpix	Playroom	Just Grandma & Me	Kidpix Companion	Kid Cuts	Kidsware2+
Cost													
current software price.	$59.95	$6000.*	$64.95	$54.95	$189.95	&69.95	$325.00	$69.95	$59.95	$49.95	$49.95	$69.95	$1460*
licensing requirements.													
has demos available.	Y	Y	N	N	Y	Y	N	Y	Y	Y	Y	Y	
educational/government discounts available.	Volume Purchases		Quantity discounts available					Y	Y	Y	Y	Y	

* Story Club by Davidson and Associates and Kidsware 2+ by MOBIUS include a variety of software programs. Contact the vendors for current information.

Code: Y= Yes; N = No; NA = Not Applicable

253

Software	Cost					
Creative Games	$75.00	$375*	Y	N		
Early Vocabulary Development Series	$225.00	$1125*	Y	N		
Talking Nouns, Talking Verbs	$130.00	$650*	Y	N		
Early Emerging Rules Series	$165.00	$825*	Y	N		
First Categories	$229.00	$1125*	Y	N		
Language Activ. of Daily Living Series	$220.00	$200*	Y	N		
Micro-LADS	$775.00	$3875*	Y	N		
Words and Concepts Series	$225.00	$1125*	Y	N		
Concentrate! Words & Concpts Series	$105.00	$525	Y	N		
Following Directions: Left and Right	$165.00		Y	N		
Follow Dir: One/Two Level Commands	$235.00		Y	N		
Kids Time	$49.95	contact great wave Software	Y	Y**		
Reading Maze	$69.95		Y	Y**		
Kids Math	$49.95		Y	Y**		
Alphabet Blocks	$49.95					
Mixed-Up Mother Goose	$49.95					
Mixed-Up Fairy Tales	$49.95					

* All Network versions

**Lab packs

Code: Y= Yes; N = No; NA = Not Applicable

CRITERIA FOR SELECTION OF SOFTWARE FOR HEAD START CLASSROOMS
(For Your Use)

Selection Criteria	Software						
Multi-Cultural Representations							
is free of negative/inappropriate cultural bias and stereotypes: *doesn't portray children in stereotypical activities i.e., boys using blocks, girls in house area, dads as mail carriers, moms in the kitchen.*							
presents multi-cultural simulations of different people and social situations: *portrays different nationalities and ethnic groups as they are seen in every-day life by children i.e., portrays Chinese-Americans- not Chinese pulling a rickshaw or in the rice fields; portrays Black-Americans as business men and women - portrays Native-Americans as they dress today, not as they might dress for a special festival.*							
uses simulations are representative of the multi-cultural diversity among HS children: *e.g. depictions include Black Americans, Native Americans, Asian Americans, Hispanic.*							
available in other languages (S=Spanish; J= Japanese; O*= Other).							
Problem Solving Opportunities							
provides trial & error strategies for exploring and problem solving: *does not ask for "correct" solutions that conform to adult standards; permits children to explore alternative solutions, try different responses; graphics and/or sound effects do not denote "wrong" answers.*							
has expanding complexity: *(1) has varying levels of difficulty and spontaneously adjusts to the child's level of ability; or (2) allows for an adult to adjust the level of challenge.*							

Code: Y= Yes; N = No; NA = Not Applicable

Selection Criteria	Software						
provides children with feedback on cause & effect relationships: *helps the child to know that their action(s) caused the response.*							
Developmental Appropriateness							
presents developmentally appropriate concepts: *presents activity/concepts appropriate and of interest to children 3-4 years of age.*							
appropriate for non-readers/beginning readers: (1) does not require reading; (2) when reading is required simple icons assist understanding or, (3) the computer "voices" the words as they appear on the screen.							
provides opportunities for teaching receptive & expressive communication skills: *(1) allows for/encourages the exchange of ideas among children; (2) enhances experiences through word processing and related language stimulating activities.*							
contains colorful, uncluttered, realistic graphics, animation: *graphics that are realistic, identifiable by children.*							
loads & runs quickly: *children can easily insert disk and load software or software is on hard drive; adult help/supervision is not needed.*							
has corresponding sound effects: *music and other sound effects are pleasing to children; and (1) the sound effects are realistic; or (2) children can insert their own sound effects.*							
Independent Play							
encourages discovery-oriented learning: *bases activities on the experiences, knowledge, and interests of 3 and 4 year old children. Children's exploration of the software results in learning and expansion of ideas.*							

Code: Y= Yes; N = No; NA = Not Applicable

Selection Criteria	Software						
empowers children: *is easily controlled by the user, who can control the pace and sequence of the program.*							
presents open-ended learning activities that permit individual choice: *the child can select from a variety of activities.*							
Cooperative Play							
provides interaction: *provides an opportunity for children to take turns and to play cooperatively.*							
encourages children to interact socially and to role play different social situations: *encourages role play and conversation.*							
presents learning activities that help young children develop appropriate communication skills: *uses grammatically correct "spoken" and written language.*							
Generalizability of Learned Skills							
contains instructional content relevant to curriculum usually found in early childhood classrooms.							
Special Needs Children							
is appropriate/can be adjusted for children with special needs.							
Sound Design							
is logically organized: *progresses from simple to complex, from concrete to abstract.*							
includes multi-sensory technical capabilities (e.g., animation, colors, voice, graphics, music).							
provides keyboard alternatives (e.g., mouse, joystick, powerpad(s), touchwindow).							
includes teacher support (documentation, classroom integration guides).							

257

Code: Y= Yes; N = No; NA = Not Applicable

Selection Criteria	Software						
Hardware Requirements							
operates on IBM = I; MAC = M; BOTH =B.							
operates on a Network.							
memory required: 1 = Dos 640K; 2 = Mac 2-4MB; 3 = 128K Apple.							
supports printers.							
recommends disk storage space.							
Other Issues							
includes operating instructions and teaching manuals that can be understood by persons unfamiliar with computers.							
has technical assistance available.							
includes training costs.							
can meet space requirements in most early childhood classrooms.							
requires special furniture.							
Cost							
current software price.							
licensing requirements.							
has demos available.							
educational/government discounts available.							

Code: Y= Yes; N = No; NA = Not Applicable

Matrix Software/Vendors/Publishers

Software included on the matrix in this chapter is listed below under the name of the vendor/publisher of that software:

DAVIDSON & ASSOCIATES, INC.
19840 Pioneer Avenue
Torrence, CA 90503
310-793-0600
Davidson's Kidsworks 2
Story Club

EDMARK
6727 185th Avenue NE
P.O.Box 3218
Redmond, WA 98073-3218
206-861-8200
800-426-0856
Millie's Math House
Kid Desk
Vocabulary Skill Builder Series
Early Concepts Skill Builders
Bailey's Book House

BORDERBUND SOFTWARE
500 Redwood Boulevard
Novato, CA 94948-6121
415-382-4683
Kidpix
Playroom
Just Grandma & Me
Kidpix Companion
Kidcuts

MOBIUS
405 N. Henry Street
Alexandria, VA 22314
703-684-2911
Kidsware 2+

LAUREATE LEARNING SYSTEMS, INC.
110 East Spring Street
Winooski, VT 05404
802-655-4757(FAX)
Creative Games
Early Vocabulary Developmentin Series
Talking Nouns, Talking Verbs
Early Emerging Rules Series
First Categories
Language Activities of Daily Living Series
Micro-Lads
Words and Concepts Series
Concentrate! on Words and Concepts Series
Following Directions: Left and Right
Following Directions: One and Two Level Commands

GREAT WAVE SOFTWARE
5353 Scotts Valley Drive
Scotts Valley, CA 95066
408-438-1990
Kids Time
Reading Maze
Kids Math

SIERRA-ON LINE, INC.
P.O. Box 485
Coarsegold, CA 93644
209-683-4468
Alphabet Blocks
Mixed-Up Mother Goose
Mixed-Up Fairy Tales

hds human development services	U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Administration for Children, Youth and Families	
	1. Log No. ACYF-IM-90-19	2. Issuance Date: 6/26/90
	3. Originating Office: Head Start Bureau	
	4. Key Word: Computers	5.
	6.	7.

INFORMATION MEMORANDUM

TO: Head Start Grantees and Delegate Agencies

SUBJECT: Computers As An Early Childhood Learning Tool

INFORMATION: The purpose of this Information Memorandum is to rescind the moratorium which has been in place since 1984 regarding the purchase of computers as early childhood learning tools. This Memorandum also provides information that will assist Head Start grantees and delegate agencies in making decisions about the use of computers in the Head Start center-based program option.

During the past two years, based on recommendations from the Head Start Computer Task Force that was established by former Commissioner Lucy Biggs in 1985, the Head Start Bureau has worked with a cluster of 11 demonstration grantees to evaluate the desirability of using computers in Head Start classrooms. The Task Force recommended to the Administration for Children, Youth and Families (ACYF) that three major recommendations be incorporated in the work of the demonstration sites:

1. Support be provided to grantees to develop, implement, evaluate and revise curriculum to accommodate the addition of a computer learning center.

2. Prepare grantee staff and parents to participate in computer hardware and software evaluation and selection.

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3. Provide a pre-service and in-service training program for administrators, education component staff, parents and volunteers. In addition, provide staff with ready access to ongoing support to solve problems encountered.

Each of the recommendations was addressed by 11 grantees and delegate agencies located in Ohio (2), New York, Maryland (4), Kentucky, Louisiana, Georgia and New Mexico. Each participating grantee received on-site training for staff and parents from MOBIUS Corporation, an IBM Corporation systems integrator. They also received ongoing technical assistance to support the proper use of hardware and software and the collection of formative evaluation information, as well as the opportunity to use a toll-free line for technical assistance.

All of the demonstration grantees have had at least six months of actual field experience using computers in their Head Start classrooms. These grantees have found that computers can be a useful learning tool for many preschool children, depending upon (1) the quality of the software, (2) the amount of time it is used, and (3) the way in which it is used.

Based on the experiences of these 11 Head Start demonstration grantees, I am rescinding the moratorium against the purchase of computers for Head Start classrooms announced to grantees in an Information Memorandum dated March 12, 1984 (Attachment A). Head Start grantees may now request approval from their Regional Offices to purchase computers in order to improve and enrich the educational experiences of Head Start children. This is an appropriate request for one-time funds as well as for equipping classrooms being set up with expansion funds.

The decision to use computers in the classroom is an important one and must be carefully thought out by staff and parents. If such is your decision, then the Education Services Component plan must be revised to include a rationale for the use of computers as well as plans for staff and parent training and appropriate child use of this new teaching equipment. However, computers should only be added to classrooms that are appropriately equipped with furniture and equipment which is attractive and in good repair and includes such basic learning materials as hardwood unit blocks and wooden floor toys.

The attached report, entitled "Computers in Head Start Classrooms: Recommendations From The Head Start IBM Partnership Project" (Attachment B), should be of assistance in helping you make your decisions about computer learning centers. The report contains basic information on the ideal number of computers to include in each classroom (two per classroom are recommended), selecting software, and training staff and parents, as well as suggestions on organizing the equipment within the computer learning center, introducing the children to the computer and new software, and managing their access to the computer.

The report also covers techniques on involving parents, cost considerations and the hardware and software used in the demonstration project. In addition, it includes a technology self-assessment readiness tool for staff and a readiness checklist for the grantee organization. For additional copies of this report, please contact MOBIUS Corporation, 405 North Henry Street, Alexandria, Virginia 22314. Toll-free number: 800-426-2710.

As you proceed with incorporating computers as a learning tool in your programs, my staff and I would appreciate hearing from you regarding your experiences. Please direct your letters to the Education Services Branch, Head Start Bureau, P.O. Box 1182, Washington, D.C. 20013.
Attention: E. Dollie Wolverton.

Wade F. Horn, Ph.D.
Commissioner

Attachment

cc: Regional Administrators, OHDS
Regions I-X

Considerations Regarding Classroom Computers

by E. Dollie Wolverton, Chief, Education Services Branch, Head Start Bureau, and Michele Plutro, Ed.D., Education Specialist, Head Start Bureau, and Cindy Bewick, Education Coordinator, Tri-County Council for Child Development, Inc., Paw Paw, Michigan.

Since the Information Memorandum of June 26, 1990, rescinding the moratorium on the use of computers in Head Start, the Head Start Bureau (HSB) has been looking at ways to include computers in Head Start classrooms in developmentally appropriate ways. The decision to include computers was based on the recommendations of the Head Start Computer Task Force and the results of the 11 demonstration grantees. (See the following article, Computers in the Head Start Classroom...An Update.) The grantees found that computers could be useful learning tools for many preschool children depending on the quality of the software, the amount of time the computer is used, and the way in which it is used.

The decision to use computers is an important one and must be thoroughly discussed by parents and staff. When the choice is to have computers, this article is designed to be helpful and address several issues that will have to be considered. Among the issues are the selection of software, training of staff and parents, organizing the equipment, introducing the children to the hardware and software, and managing access to the computer.

Some parents and teachers wonder if they have to bring computers into their classrooms to make the preschool experience complete. The answer is no -- you do not need to have computers in your classroom. The decision to use computers has to be a mutual one between parents and staff and a decision with which all parties feel comfortable. The choice is for each grantee to make, based upon what they feel is right for their children.

KEY ISSUES

There are professional discussions around whether or not computers may distract from other learning opportunities by taking time and attention away from well-established and successful learning strategies, such as block play, finger painting, outdoor activities, and sharing stories. Some studies have shown that children initially spend more time with the computer, but as familiarity with it increases, children come to see it as just another learning center.

As required by the Head Start Program Performance Standards, all activities in Head Start classrooms are to be developmentally appropriate. This means they must also be individually appropriate for each child, which is why this issue is of primary importance. According to the High/Scope Educational Research Foundation, computers should first and foremost be used as a learning tool. If a child is comfortable using a program and enjoys working on the computer, many people feel that this becomes developmentally appropriate. Likewise, if a child is not comfortable working on a computer or is not sure about it, seeing other children using it may increase her/his confidence and familiarity toward it. If a child so chooses, transferring learning across activities can be used to ease her/him into experiences with a computer. For example, the child could use the computer to tell a story about a picture that has just been painted.

Staff must decide on how to successfully introduce children to the computer learning center. It is recommended that they be introduced in small groups, in pairs, or individually. HSB feels that it is best to introduce the computer learning center at the same time as other learning centers. If introduced in the same way and at the same time as other learning activities, the computer will not be set off as something different or unusual.

In Susan Thouvenelle's *Computers in Head Start Classrooms*, she suggests a sequence for introducing children to computers. The sequence begins with playful discovery, continues to involvement, then self-confidence, and concludes with the creative and unique use of technology.

PARENTS

In programs where the decision is made to use computers, it is recommended that one adult be present while a child is on a computer and that each classroom have two computers side by side so that children may interact with each other. The adult can be a teacher, an aide, or a parent.

The use of computers by children in Head Start classrooms is also expected to increase the parents' involvement and interest, leading them toward skills in technology which are important in today's information-driven society. The Head Start Bureau recognizes that some grantees want to offer children the opportunity to be exposed to computers, and, by association, offer the opportunity to parents. Many times, after seeing their children learn skills and develop expertise on computers, parents feel more confidence in exploring computers themselves and, with encouragement, can develop their own mastery and expertise. This has the benefit of helping parents become more prepared for today's marketplace of information and technology.

The Creative Curriculum for Early Childhood, by Diane Trister Dodge and Laura J. Colker, lists certain benefits of involving parents in using computers with the children:

- Parents who know nothing about computers can learn computer skills in a non-threatening environment.
- Parents who are familiar with computers can share their knowledge with the children.
- Parents gain a better appreciation of what their children are learning.
- Parents and children have an opportunity to do an activity together.

(continued on next page)

- Parents have an added opportunity to spend time with their children.

- Parents and children spending time together conveys the message that shared time is important.

SOFTWARE

Another important decision to make after deciding to place computers in the classroom is the kind of software to use. This is of the utmost importance because it has to be culturally and developmentally appropriate. In recent years, many manufacturers have opened up markets to develop software aimed at preschool children, including children with disabilities. However, very little may be appropriate for HS children. The software should first be evaluated for its cultural appropriateness. Staff can ask for a sample program, preview copy, or request a demonstration to see if it meets the program's goals and needs. Whatever software is selected, it should include the following elements for developmentally appropriate software, adapted from those listed in *The Creative Curriculum for Early Childhood:*

- Age-appropriate content and approach.
- Can be used independently.
- Continual visual display.
- Pictures are used to represent words or ideas.
- Clear and simple instructions.
- Use does not depend on reading skills.
- Presents open-ended exploration and child choices.
- Program offers varying levels of difficulty.

CLASSROOM ENVIRONMENT AND THE HOME-BASED OPTION

There are additional matters to consider when introducing computers into the home-based option. In order to expose these children and their parents to computers, one possibility is to design the group socialization times in such a way as to a) include a visit to a classroom where there are computers; b) schedule a field trip to businesses which use computers, i.e., newsrooms, libraries, adult learning centers; and c) borrow or rent laptop computers.

For home-based programs which must use a classroom environment for socialization activities, as well as for center-based programs, the classroom environment is another consideration. *Computers in Head Start Classrooms* by MOBIUS Corporation, recommends that computer learning centers include two computer stations and one shared printer. The computers should be positioned so that each child can see what the other is doing on the computer. This encourages social interaction between the children, language stimulation, exchange of ideas, and cooperative learning by peer tutoring and joint problem-solving.

Some curriculum developers offer the following suggestions for preparing the environment:

- Children should be able to work comfortably at the computer and be able to reach the printer.
- Use child-sized computer station furnishings.
- Place the computers next to each other to encourage interaction.
- Provide child-height shelving so children can access the software.
- Include any adaptations necessary for successful use by children with disabilities.

RESOURCES

Many recommendations, suggestions, and further coverage of the points made in this article can be found in the Information Memorandum of June 26, 1990; in *Computers in Head Start Classrooms*; in *Computers and Young Children*, an instructional videotape from the National Association for the Education of Young Children; *Young Children and Computers*, by Charles Hohmann; *The Creative Curriculum for Early Childhood*, 3rd Edition; and C. E. Edwards' article, "A case for cultural relevance in software."

Books and videos are available to help parents and teachers make informed decisions on what kind of software to buy. The following publications annually rate software programs for early childhood classrooms: *High/Scope Survey of Early Childhood Software*, 1991 Edition, by Warren Buckleitner; *High/Scope Buyer's Guide to Children's Software 1992: Annual Survey of Computer Programs for Children Aged 3 to 7.*

Having computers in Head Start classrooms is not an easy process -- nor is it a one-step process. Many factors must be considered before it can be a reality, and the above issues must be weighed if the decision to use computers is made.

LET US HEAR FROM YOU

Because incorporating computers into Head Start classrooms is recognized as a large undertaking, HSB would like as much feedback as possible from those grantees incorporating or choosing not to incorporate computers in the Head Start setting. Please be assured that HSB supports the decision of local programs to choose either direction. Please let us hear from you. Communicate your experiences to:

The Education Services Branch
Head Start Bureau
P. O. Box 1182
Washington, D.C. 20013
Attention: E. Dollie Wolverton.

Glossary

ACCESS:
The process of retrieving records from a disk file or memory location.

APPLICATION:
A program or group of programs designed for end users.

APPLICATION SOFTWARE:
Includes database programs, word processors, and spreadsheets.

ASCII:
An acronym for the *American Standard Code for Information Interchange*. Pronounced Ask-ee, ASCII is a code for representing English characters as numbers, with each letter assigned a number from 0 to 27.

AUTOMATIC SAVE:
The process of putting information in a backup file without giving a specific command to do so.

BACKUP:
To copy files to second medium (a disk or tape) as a precaution in case the first medium fails.

BIT:
The basic unit of computer information (short for binary digit).

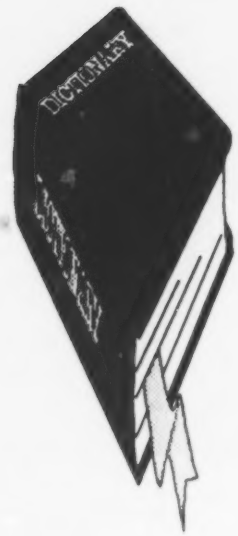
BOOT:
To load the first piece of software that starts the computer.

BUG:
A malfunction either in the computer's hardware or software.

BULLETIN BOARD SYSTEM (BBS):
An electronic message center.

BYTE:
A unit of information for processing in certain kinds of electronic computers, equal to one character or eight bits.

CABLE:
Round or flayed wires that connect computer components to each other.



CD-ROM:

(Compact Disk - Read Only Memory) Comes filled with data. You can read the information on a CD-ROM disk, but you cannot add, delete, or write new data on it.

CGA:

An abbreviation of *color/graphics adapter* which was primarily designed for computer games.

CODE:

A set of symbols for representing somethings as most computers use ASCII codes to represent characters.

CODING SYSTEM:

A set of rules for data conversion and representation.

COMMAND:

An instruction to a computer or device to perform a specific task.

COMPATIBILITY:

The ability to use a piece of software on several different computers.

CPU:

Central Processing Unit. The brains of the computer. The CPU is where most calculations take place. On PCs the CPU is housed in a single chip called a microprocessor.

CRT:

An acronym for *cathode ray tube;* a visual-display device that receives electrical impulses and translates them into a picture on a television-like screen; also called a monitor.

CURSOR:

The blinking light or box on the screen that shows where the image or letters you type will appear. The cursor may also highlight the current selection on a menu.

DATA:

Information formatted in a special way which can exist in a variety of forms as numbers or text on pieces of paper.

DATABASE MANAGEMENT:

A management information system that allows commonly defined data to be defined and is consistently organized to fit the information needs of a wide variety of users in an organization.

DEBUG, The:

The process of searching for an eliminating a malfunction in either hardware or software.

DEMOS:

An abbreviated version of software. Vendors or developers sometimes send demos of their software to potential customers for trial.

DEVICE:

Any machine or component that attaches to a computer such as a disk drive or modem.

DIRECTORY:

An organization of files that DOS maintains on each disk. The "DIR" command displays this list.

DISK DRIVE:

The mechanical device that holds and rotates a disk, floppy or hard, on which computer programs and data are stored.

DISK:

A round plate on which data can be encoded.

Floppy Disks:

Thin, magnetized mylar circles enclosed in square plastic cases. **Floppy disks** are used to store information — either a programs or data entered by the user. Floppy disks usually come in two standard sizes: 5.25" and 3.5".

Hard Disks:

Can store anywhere from 5 Mega Bytes to more than 3 Giga Bytes of information. Programs stored on hard disks will run 2 to 20 times faster than those stored on floppy disks.

DOS:

An abbreviation for *disk operating system;* a program which tells the CPU how to communicate with the disk drives.

EGA:

An abbreviation of *enhanced graphics adapter*, a graphics display system which is better than CGA but not as good as VGA.

END USER:

The final or ultimate user of a computer system.

FAX:

An abbreviation of *facsimile machine* which is a device that can send or receive pictures and text over a telephone line.

FIELD:

A category of information, such as social security number; also known as a variable.

FILE:

A grouping of related records; sometimes referred to as a data set.

FORMAT:

To prepare a disk so that it can be used by the computer.

GRAPHICS:

Drawings or other nontext designs created on the computer.

HARD COPY:

The output (data or program listing) printed out by the computer to paper.

HARD-WIRED:

The physical connection of several terminals into a main computer that allows data entry and retrieval to take place.

HARDWARE:

Any electronic or mechanical equipment used in association with data processing e.g., printer, disk drive, monitor, peripherals, electronic circuity, touch window, powerpads.

ICON:

A small picture on the screen that represents an object or program.

INPUT:

Information (e.g., commands data) entered into the computer for processing.

INSTALLATION:

The process of loading a piece of software on the computer, this process includes more than just copying the software onto the disk.

INTEGRATED CHANGES/INFORMATION:

Refers to items or fields that are modified only in one section but the modification is automatically adjusted in other related sections of the software.

INTERFACE:

Something that connects two separate entities. An interface can be a program or a device, such as an electrical connector.

INTERFACE CARD:

A flat panel containing electronics and circuitry that can be inserted into the computer. Some interface cards have ports into which a related external device can be plugged.

INVALID ENTRY ALERT:

A signal that the computer tells the user when information or data is improperly placed in the computer; usually a beep sound or written message on the screen.

JOYSTICK:

A box with an upright stick attached. **Joysticks** are attached to computers to manipulate figures in a program (usually a game).

KEY:

A button on the computer keyboard with either a letter, symbol, word, or number on it. Pushing the keys gives the computer instructions.

KEYBOARD:

A set of typewriter-like keys that enable the user to enter data into a computer and give commands to the software.

LOADING A PROGRAM:

The process of transferring information from the floppy disk onto the hard disk, i.e., into the computer's memory.

LOCAL-AREA NETWORK (LAN):

A computer network that spans a relatively small area. Most LAN's connect work stations and personal computers.

MB:

A **megabyte** is 1,084,476 bytes. A hard disk with 20 MB of storage should be able to store 21 million characters.

MEMORY:

The part of computer that provides the ability to recall information; also called storage.

MENU:

A list of choices or options in a program that appears on the screen for the user to make a selection.

MENU-DRIVEN:

Refers to a program that allows the user to manipulate data by selecting an item from a menu.

MENU REPORTS:

The ability to produce a report by selecting an item from the menu.

MH_z:

Megahertz-the unit by which the speed of microprocessors is measured. One MH_z represents one million cycles per second. A microprocessor that runs at 25 MH_z executes 25 million cycles per second.

MICROCOMPUTER:

A small computer; often a special-purpose or single function computer on a single chip; also called a personal computer.

MICROCOMPUTER:

A compact, self-contained computer system with its CPU (Central Processing Unit) implemented on a single integrated circuit, called a microprocessor. A microcomputer is often called a micro.

MICROPROCESSOR:
A miniaturized integrated circuit that performs all of the functions of a central processing unit.

MODEM:
An Acronym for *modulator-demodulator* which is a device that enables a computer to transmit data over telephone lines.

MODIFICATION:
Refers to an adjustment in the computer software based on the specific need requested by an individual.

MONITOR:
Also called CRT; television-like screen on which the computer displays text and graphics.

MOUSE:
A small device that controls the movement of the cursor or pointer on a display screen/monitor when rolled along a hard, flat surface. A click of the mouse can cause the same reaction as tapping the <ENTER> key.

MULTI-USER:
A system that allows several users to share the same computer resources.

OPERATING SYSTEM:
A collection of programs designed to permit a computer system to manage itself and to avoid idle time while increasing the utilization of computer facilities.

PARALLEL PORT:
An interface for connecting an external device as a printer.

PASSWORD:
A security code that allows only authorized users to access a computer program.

PC-COMPATIBLE:
A microcomputer that is compatible with the IBM PC and uses the same kind of software.

PERIPHERALS:

Additional pieces of equipment that do not form part of the main computer system; these items include devices such as printers, modems or graphic plotters.

PORT:

An interface slot on a computer which connects a peripheral device, such as a printer, a mouse, or a powerpad.

Parallel Port:
A 25-pin connector port. Parallel ports are used almost exclusively to connect printers to the computer.

Serial Port:
A general-purpose interface slot that can be used for almost any type of device, including modems and mice.

POWERPAD:

An alternative input device that attaches to a serial port and allows users of all ages and abilities to give commands to the software.

PRINTERS:

A device that prints text or illustrations on paper. There are many types of printers:

Dot-Matrix Printers:
Create characters by striking pins against an ink ribbon. Each pin makes one dot and a collection of dots makes a character or letter. The more pins the finer the print.

Ink-Jet Printers:
Spray ink on to a sheet of paper, producing high-quality text and graphics.

Laser Printers:
Produce very high-quality text and graphics, and are capable of printing almost unlimited fonts.

PROGRAM:

A series of sequential instructions to direct the computer to execute.

PROGRAMMER:

The person who writes step-by-step instructions for the computer to execute.

273

RANDOM ACCESS MEMORY (RAM):
Computer memory that is accessed randomly. It allows the user to create, load and run new programs and to store and manipulate data temporarily.

RETURN:
A key on the keyboard that is often used to indicate completion of an entry or a choice. On IBM machines this key is called the <ENTER> key.

REVERSE VIDEO:
Highlighting a character field or cursor by reversing its color and its background on a screen.

ROM (Read Only Memory)
Computer memory in which operating procedures are stored during manufacture and can only be changed by the manufacturer.

SCREEN:
The method by which the computer communicates with its user.

SOFTWARE:
A set of standardized computer programs, procedures and related documentation. Anything that can be stored electronically or displayed on paper is software.

SPREADSHEET:
An electronic representation of a ledger sheet divided into columns and rows; also known as a worksheet.

STANDARD HARDWARE:
The physical computer as received by the manufacturer without any additional components or changes.

STORAGE AREA:
The part of a computer that provides the ability to recall information; memory.

SYSTEM (or COMPUTER SYSTEM):
All the components that make up the computer.

SYSTEM ENHANCEMENTS:
Refers to an upgrade of a software system; to add an additional element to a software system allowing it to perform more functions.

SYSTEMS SOFTWARE:

Consists of low-level programs that interact with the computer at a very basic level. This includes operating systems, compilers, and utility applications.

TERMINAL:

A device usually equipped with a keyboard and display, capable of sending and retrieving information.

TOUCHWINDOW:

A type of display screen that has a touch-sensitive transparent panel covering the screen. A touch of the finger operates the software.

USER DEFINED:

Reports that are generated by the user utilizing the application language and setting his/her own variables in defining the report.

USER FRIENDLY:

A piece of jargon to denote a computer or a piece of software that is easy to use by somebody who has little or no background in computer science.

USER GROUPS:

A network of people who utilize the same software and offer one another support in problems and possibilities concerning the use of the software.

USER MANUAL:

A handbook that explains the installation and commands that are needed to use a software package; gives instructions and examples of tasks the software can perform.

VDT or VDU:

An abbreviation of *video display terminal - video display unit;* television-like screen on which the computer displays text and graphics; CRT; monitor.

VGA:

An abbreviation of *video graphics array,* a graphics display system.

VOICE SYNTHESIZER:

A device that allows the computer to synthetically create the speech sounds of the human voice.

WORD PROCESSING:

Programs that allow the writer to edit, store, and print written text.

WORD WRAP:

A feature of word processing programs that allow text to flow continuously within the defined margins. Without having to use a (carriage) return at the end of each time.

Definition of Accounting Terms

Account Number- A number assigned to a specific category of financial transactions. The account number may be for a general ledger account, or for a customer or vendor.

Accounting Period- A period at the end of which and for which financial statements are prepared.

Accounting Security- Assurance that the accounting system is reporting the financial history of the organization accurately.

Accounting System- The total structure of records and procedures which discover record, classify, and report information on the financial position and operations of an organization or any of its funds.

Accrual Basis- The basis of accounting under which revenues are recorded when earned and expenditures are recorded as soon as they result in liabilities for benefits received. the receipt of the revenue or the payment of the expenditure may take place, in whole or in part, in another accounting period.

Activity- A grouping of expenditures classified on the basis of specific **Classification** lines of work performed by organization units. For example, teaching and supervising are activities performed in carrying out the instruction function in Head Start and the segregation of the expenditures made for each of these activities constitutes and activity classification.

Adjusting Journal- **Entries** Transaction entries that are made to reflect internal adjustments (e.g.), when the physical inventory count doesn't match the book value.

Allocate- To divide a lump-sum appropriation into designated parts for expenditure by specific organizations and/or for specific purposes, activities or objects.

Allocation- The amount of money designated for expenditure by an organization for specific purposes, activities, or objects.

Allot- To divide an appropriation into amounts which may be encumbered or expended during an allotment period.

Allotment Period- A period of time up to one fiscal year in length during which an allotment is effective. Bi-monthly and quarterly allotment periods are most common.

Amortization- (1) Gradual reduction, redemption, or liquidation of the balance of an account to a specified schedule of times and amounts. (2) Provision for the extinguishment of a debt by means of a Debt Service Fund.

Appropriation- An authorization granted by a legislative body to make expenditures and to incur obligations for specific purposes.

Appropriation Account- A budgetary account established to record specific authorizations to spend.

Appropriation Ledger- A subsidiary ledger containing an account for each appropriation. Each account usually shows the amount originally appropriated, transfers to or from the appropriation, amounts charged against the appropriation, the net balance, and other related information.

Budget- A financial plan for a single fiscal year.

Budget Documentation- The instrument used by budget-making authority to present a comprehensive financial program to the appropriation body.

Budgetary Accounts- Those accounts which reflect budgetary operations and conditions, such as estimates, revenues, appropriations, and encumbrances.

Capital Program- A plan for capital expenditures to be incurred each year over a fixed period of years to meet capital needs.

Clearing Account- An account used to accumulate total charges or credits for the purpose of distributing them later among the account to which they are allocable or for the purpose of transferring the net differences to the proper account.

Coding- A system of numbering or otherwise designating accounts, entries, vouchers, etc., in such a manner that the symbol used reveals quickly certain required information.

Contingent Fund- Assents or other resources set aside to provide for unforeseen or anticipated expenditures of uncertain amount.

Continuing Appropriation- An appropriation which, once established, is automatically renewed without further legislative action, period after period, until altered or revoked.

Current Funds- Funds that are expanded for operating purposes during the current fiscal period.

Deferred Charges- Expenditures which are not chargeable to the fiscal period in Deferred Debits which made but are carried on the asset side of the balance sheet pending amortization or other disposition.

Encumbrances- Obligations in the form of purchases, orders, contracts, or salary commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved. They cease to be encumbrances when paid or when the actual liability is established.

278

Expenses- Charges incurred, whether paid or unpaid, for operation, maintenance, interest, and other charges which are presumed to benefit the current fiscal period.

Fiscal Period- Any period at the end of which an organization determines its financial position and the results of its operations.

Fiscal Year- A twelve month period of time to which the annual budget applies and at the end which an organization determines its financial position and the results of its operations.

Fixed Charges- Expenses the amount of which are more or less fixed. Examples are interest, rent, insurance, and contributions to pension funds.

Fund- An independent fiscal and accounting entity with a self-balancing set of accounts recording cash and/or other resources together with all related liabilities, obligations, reserves, and equities. These funds are for the purpose of carrying on specific activities or attaining certain objectives in accordance with special regulations, restrictions, or limitations.

Fund Account- All accounts necessary to set forth the financial operations and financial position of a fund.

Independent Auditor- An independent appraisal activity within an organization which: (a) determines the adequacy of the system of internal control; (b) verifies and safeguards assets; (c) checks the reliability of the accounting and reporting system; (d) ascertains compliance with established policies and procedures; and (e) appraises performance of activities and work programs.

Internal Control- An organizational plan under which employees' duties are so arranged and records and procedures so designed as to make it possible to exercise effective accounting control over assets, liabilities, revenues, and expenditures.

Long-Term Budget- A budget prepared for a period longer than a fiscal year.

Obligations- Amounts which an organization may be required legally to meet out of its resources. They include not only actual liabilities but also unliquidated encumbrances.

Operating Budget- A budget which applies to all outlays other than capital outlays.

Pay-As-You-Go Basis- A term used to describe the financial policy of an organization which finances all of its capital outlays from current revenues.

Perpetual Inventory- A system whereby the inventory of units of property at any date may be obtained directly from the records without resorting to an actual physical count.

Reimbursement- Cash or other assets received as a repayment for the cost of work or services performed or for other expenditures made.

Requisition- A written demand or request, usually from one department to a purchasing officer or to another department for specific articles or services.

Reserve- An account of funds segregated for some future use and which are therefore not available for current appropriation or expenditure.

Resources- The assets of an organization such as cash, land, buildings, etc. Also includes contingent assets such as estimated revenues applying to the current fiscal year not accrued or collected.

Restricted Assets- Moneys or other resources, the use of which is restricted by legal or contractual requirements.

Special Fund- Any fund which must be devoted to some special use in accordance with specific regulations and restrictions.

Transfer Voucher- A voucher authorizing transfers of cash or other resources between funds.

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